

Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus  
**REQUEST FOR PROPOSALS**

**JOB NO. 02-06-FB**

**SPECIAL OPERATIONS UNIT  
(RESCUE-AIR-LIGHT-COMMAND)**

**FOR**  
*CITY OF KIRKLAND FLEET MANAGEMENT*  
*KIRKLAND FIRE DEPARTMENT*  
*123 5<sup>TH</sup> AVENUE*  
*KIRKLAND, WA 98033*

**FIRE CHIEF**  
**JEFFREY BLAKE**

**PROJECT MANAGERS**  
**FLEET MANAGER TIM LLEWELLYN**  
**FIRE CAPTAIN LARRY PEABODY**

**Bid Specification & Information For:  
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**SPECIFICATIONS AND INSTRUCTIONS TO SUPPLIERS  
FOR ONE OR MORE NEW SPECIAL OPERATIONS VEHICLES AND EQUIPMENT**

**CITY OF KIRKLAND FLEET SERVICES  
KIRKLAND FIRE DEPARTMENT  
123 5<sup>TH</sup> AVENUE  
KIRKLAND, WA 98033**

**SECTION A-GENERAL INSTRUCTIONS**

- A.0** The City of Kirkland Purchasing Department will receive sealed proposals up to 4:00 pm on Tuesday, December 27, 2005, for the supplying of one (1) or more new Special Operations Units (Air-Light-Rescue-Command Vehicle) and equipment, as outlined in the following specifications. As this is a Request for Proposals, there will not be a public proposal opening.
- A.1** The City of Kirkland reserves the right to accept or reject any or all proposals, and to accept the proposal deemed to be in the best interest of the City and Citizens of Kirkland. The City of Kirkland is not bound to accept the lowest price submitted. The successful Supplier will be the one that submits a proposal that meets or exceeds the specifications set forth in this RFP and can demonstrate that their proposed vehicle will provide the greatest value to the City of Kirkland.
- A.2** It is the intent of these specifications to secure competitive proposals to provide for the construction and delivery of one (1) or more new quality built Special Operations Unit and equipment. These specifications detail the requirements for general design criteria of the unit(s) desired, the chassis, body, and electrical systems and equipment to be supplied. Note: These specifications are not designed to be proprietary or restrictive. However they are intended to demonstrate the high quality and value desired by the City of Kirkland. The City of Kirkland desires apparatus closely meeting the guidelines and design criteria specified herein for uniformity among our apparatus, however as noted, exceptions will be considered, provided proper supporting information is provided so the City of Kirkland can compare and evaluate the exceptions to the specifications.
- A.3** In evaluating the proposals, these major items will be considered; Commitment for delivery, length and terms of warranties, manufacturer's location and regional track record for performance, dealer's location and track record for performance, location of post delivery service and parts, compliance with proposal specifications, completeness of the proposal, price and information supplied, etc.

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- A.4** Units proposed shall closely meet the specific requirements and intent of the requirements as specified herein. All items of these specifications will conform to the character of the proposed equipment, and the purpose for which it is intended.

**A.5 CONTRACTOR'S STATEMENT OF QUALIFICATIONS**

The undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

1. How many years has your organization been in business as a Fire Apparatus and Emergency Vehicle manufacturer? \_\_\_\_\_
2. How many years has your organization been in business under its present business name? \_\_\_\_\_

Under what other or former names has your organization operated?  
\_\_\_\_\_

3. If your organization is a corporation, answer the following:

Date of incorporation: \_\_\_\_\_  
State of incorporation: \_\_\_\_\_  
President's Name: \_\_\_\_\_  
Vice President's Name: \_\_\_\_\_  
Secretary's Name: \_\_\_\_\_  
Treasurer's Name: \_\_\_\_\_

4. If your organization is a partnership, answer the following:

Date of organization: \_\_\_\_\_  
Type of partnership: \_\_\_\_\_  
Name(s) of general partner(s): \_\_\_\_\_

5. If your organization is individually owned, answer the following:

Date of organization: \_\_\_\_\_  
Name of owner: \_\_\_\_\_

6. If the form of your organization is other than those listed above, describe it and its principals: \_\_\_\_\_  
\_\_\_\_\_

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**A.5.1 EXPERIENCE**

List the categories of work that your organization normally performs with its own forces.

1. Claims and suits. (If the answer to any of the questions below is yes, please attach details.)
  - a. Has your organization ever failed to complete any work awarded to it?
  - b. Are there any liens, judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?
  - c. Has your organization filed any lawsuits or requested arbitration with regard to construction contracts within the last five years?
2. Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

**Proposal Complies: Yes\_\_\_ No\_\_\_**

**A.6 COOPERATIVE PURCHASING**

RCW 39.34 allows cooperative purchasing between public agencies (political subdivisions) in the State of Washington. Public agencies which have executed an Intergovernmental Cooperative Purchasing Agreement with the City of Kirkland may purchase from City of Kirkland contracts, provided that the Supplier has agreed to such participation. Each supplier shall indicate on the proposal submittal form (Page 13) if he will honor other public agency orders in accordance with contract terms and conditions in addition to orders from the City of Kirkland. The City of Kirkland does not accept any responsibility for purchase orders issued by other public agencies.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- A.7** Supplier shall submit a list of units delivered within the State of Washington which are currently in normal fire service use, having no defects causing the apparatus to give unsatisfactory service, attributable to workmanship, materials, or construction techniques.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

**A.7.1 REFERENCES**

List up to three names of municipalities (i.e., cities, counties and other municipalities) for whom you have most recently contracted work with:

Municipality _____	Contact _____	Phone _____
Municipality _____	Contact _____	Phone _____
Municipality _____	Contact _____	Phone _____

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**INSURANCE:**

Name of Company: \_\_\_\_\_

Insurance Agent: \_\_\_\_\_

**SURETY:**

Name of Bonding Company: \_\_\_\_\_

Bonding Agent: \_\_\_\_\_

**Failure to complete all parts of this Proposal, including all of its attachments, may render this Proposal non-responsive.**

- A.8** Each Supplier shall provide satisfactory evidence of the manufacturer's ability to construct the unit and supply service, parts and technical assistance for the equipment proposed. Supplier shall state the location of the factory at which the complete apparatus shall be constructed. Supplier shall also state the location where post delivery service is available.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- A.9** The City of Kirkland seeks proposals from qualified Supplier's offering complete service facilities, within a reasonable distance from the City. After delivery support and service is of extreme importance to the City of Kirkland. Supplier shall include the location, information, photos and capabilities of their local service center and personnel available. Service personnel must be available 24 hours per day, 7 days a week to provide emergency service or technical support as required by the City of Kirkland. Supplier's local facilities should include mobile service capability also, for "On Site" service of the apparatus.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

**No exceptions will be allowed for any of the aforementioned instructions. Proposals not submitted in accordance with these instructions may be rejected.**

**EXCEPTIONS TO SPECIFICATIONS**

- A.10** Each supplier shall indicate compliance with these specifications by checking the proposal compliance question where it appears in each section of the specifications. Checking "YES" to that section will mean full compliance with all portions of that paragraph, checking "NO" will mean an exception or clarification of any sort is being taken to all or part of that paragraph. Where it is specifically stated **"NO EXCEPTIONS"**, none will be tolerated and may be cause for rejection of the proposal.

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- A.11** Exceptions will be referenced to the paragraph, page number and item number of these specifications where the item appears, and drawings or photographs and technical information about the exception shall be provided with proposal. Any exceptions taken may be considered during the proposal evaluation process. The City of Kirkland will be the sole judge as to the acceptability of any of the items listed as exceptions, and the decision of the City of Kirkland will be final. **NO EXCEPTIONS**
- A.12** Proposals with no exceptions may be given preference over those with exceptions regardless of cost differential.
- A.13** Proposals taking total exception to these specifications will not be considered. Alternate proposals on "Like" apparatus will not be considered.

**SECTION B-WRITTEN SPECIFICATIONS**

- B.0** Each proposal will be accompanied by a detailed description, (Manufacturer's proposal) of the work and equipment it proposes to furnish. It is the intent of these specifications to provide for the delivery of a complete and soundly engineered vehicle, equipped as specified. Minor details of construction and materials, where not otherwise specified, are left to the discretion of the contractor, who will be solely responsible for the design and construction of all features.
- B.1** Some items in these specifications have been specified by brand name or model number. These have been carefully selected because of their quality, reliability, and availability of replacement locally. In order for proposals to be considered responsive, equipment specified, or approved equals shall be contained in proposal proposals.
- B.2** The City of Kirkland shall be the sole judge as to the acceptability of any item proposed as an equivalent to any specified item. Supporting technical information, literature, samples & other support material shall be provided with proposal on items not provided in accordance with the specifications.

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**SECTION C-SPECIAL CONDITIONS**

No proposal will be considered unless the supplier can meet the special conditions stated herein.

- C.0** The final stage manufacturer shall be authorized by the chassis manufacturer to construct fire apparatus on the brand of chassis proposed. Proof of such certification shall be provided with proposal.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- C.1** Manufacturer / Dealer shall be a fully licensed and bonded vehicle dealer for the State of Washington. **NO EXCEPTIONS.** Supplier shall include proof of such licenses & certificates with their proposal proposals. Proposals received from Suppliers not licensed as a vehicle dealer within the State will be immediately rejected without further explanation.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- C.2** The supplier / dealer shall be the authorized distributor of the apparatus proposed, and shall provide a notarized statement as to such with the proposal. Proposals not complying with this provision are not acceptable. **NO EXCEPTIONS.**

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- C.3** Final Stage Manufacturer shall provide a current certificate of insurance with their proposal. Product liability coverage shall be not less than \$2,000,000 dollars, with a combined aggregate coverage (including chassis and body) of not less than \$25,000,000.00 dollars, including chassis manufacturer's coverage. Proof of garage keepers insurance shall also be provided, as well as bonding for any service work performed while apparatus is in the City of Kirkland's possession

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- C.4** The entire apparatus shall be manufactured in its entirety within the Continental United States of America. **NO EXCEPTIONS.**

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- C.5** Supplier shall state in proposal if currently involved in any litigation regarding product or company performance. If the company is involved in such litigation, provide information on the nature and status of the litigation.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- C.6** Supplier shall be responsible for completely filling out the entire detailed analysis section (Supplier Compliance Section) of these specifications. Proposals submitted that are not completely filled out may be rejected as "Non-Responsive", if the City of Kirkland is not able to fully analyze and compare the proposals submitted.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

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**SECTION D- PRICE, PAYMENT & DELIVERY**

- D.0** All proposal prices shall be FOB the City of Kirkland's Fleet Maintenance Center, based upon above special conditions. All prices quoted shall be valid for a period of not less than forty five (45) days after proposals are opened.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- D.1** In the event that additional units are required by the City of Kirkland or other public agencies (See section A.6) within the next five years, the Supplier shall state how pricing for any additional units will be determined. If the Consumer Price Index is to be used in calculating the future price of a unit, CPI-W for the Seattle/Tacoma/Bremerton area shall apply.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- D.2** **All proposals shall be submitted on the enclosed proposal form provided with these specifications (Page 13).** The form shall be completely filled out and signed by a company officer with the appropriate authority or the proposal will be rejected as unresponsive. **NO EXCEPTIONS.**

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- D.3** **All proposals shall include the completed Non-Collusion Affidavit found on Page 18.**

- D.4** Total price on specified proposal shall include all items and components as listed in these specifications. Listing any items contained in these specifications as an extra cost item, unless otherwise specified, will automatically be cause for rejection.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- D.5** Suppliers shall state the maximum delivery time based on number of actual calendar days from date of receipt of order from the City of Kirkland, regardless of the cab and chassis production and delivery date.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- D.6** Before final acceptance of the unit(s) it will be tested in the presence of an authorized representative of the purchaser. The purchaser reserves the right to perform actual performance tests to evaluate the unit, prior to acceptance and payment. Testing will be done with the assistance of the contractor or proposing company.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- D.7** In the event the unit fails to meet the test requirements on first trials, second trial may be made within thirty (30) days of the date of the first trials. Housing or storing the unit will not constitute acceptance of the unit until testing is completed.

**Proposal Complies: Yes\_\_\_ No\_\_\_**



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- D.8** Final acceptance and payment shall occur after the completed unit has been evaluated and tested at the purchaser's location to the full satisfaction of the Fire Chief or his designee. Suppliers shall include any financing proposals with their proposals, including terms and conditions for payment and purchase options available. Suppliers shall state payment terms with proposal proposals.  
**Proposal Complies: Yes\_\_\_ No\_\_\_**

**SECTION E-CONTRACT AWARD**

- E.0** The purchaser reserves the right to reject any or all proposals deemed by the City of Kirkland to be unresponsive. Contract will be awarded and purchase order issued to the supplier most closely meeting the City of Kirkland's attached specifications and offering equipment that provides the greatest value to the City, based upon the criteria of the City of Kirkland.
- E.1** The purchaser also reserves the right to waive any informalities, irregularities and technicalities in procedure. The purchaser is not bound to accept the low proposal.
- E.2** Suppliers shall submit manufacturer's standard purchase contract, if any, with proposal, for review by the City of Kirkland.

**SECTION F-WARRANTIES**

- F.0** The following minimum warranty standards shall be met.
- F.1** Minimum Ten (10) year structural body and subframe warranty.  
**Proposal Complies: Yes\_\_\_ No\_\_\_**
- F.2** Minimum Ten (10) year Paint / Finish Warranty:  
**Proposal Complies: Yes\_\_\_ No\_\_\_**
- F.3** Minimum Twelve month / 12,000 mile accessories Warranty.  
**Proposal Complies: Yes\_\_\_ No\_\_\_**
- F.4** Complete details of the manufacturer's warranties shall be provided with the proposal. All standard warranties shall be transferred to the City of Kirkland with the assistance of the manufacturer or dealer.  
**Proposal Complies: Yes\_\_\_ No\_\_\_**

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**SECTION G-MATERIAL AND WORKMANSHIP**

- G.0** All equipment provided shall be guaranteed to be new and of current manufacture, and unless specified otherwise, shall meet all requirements of these specifications and prevailing NFPA documents and be in necessary condition at time of delivery for use as specified for this type of apparatus.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- G.1** All workmanship shall be of the highest quality and accomplished in a professional manner so as to insure a functional apparatus with an aesthetic appearance.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- G.2** All materials used shall be of the highest quality available. Second rate or poor quality components are not desired by the City of Kirkland. The City of Kirkland will be the sole judge of quality materials and workmanship, judged by inspection of manufacturer's recent deliveries within the State of Washington.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- G.3** The construction must be rugged, and ample safety factors must be provided to carry the loads specified and to meet both the on and off road requirements and speed conditions as set forth under the "Performance Tests and Requirements" section.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- G.4** The apparatus shall be designed and the equipment mounted with due consideration to the distribution of load between the front and rear axles, so all specified equipment with a full complement of personnel can be carried without damage to the apparatus. Weight balance and distribution shall be in accordance with the State of Washington and all Federal laws.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- G.5** A full set of weight and balance charts shall be provided with the proposal, detailing out the weight of the fully laden apparatus, to determine the appropriate wheelbase, axles, suspension and components for the apparatus as proposed.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

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**SECTION H-TECHNICAL INFORMATION**

- H.O** Supplier shall provide, free of charge upon request, technical information, graphs, charts, photographs, engineering diagrams, steering geometry, instruction guides, or other documentation as requested to show that the equipment offered fully complies with these specifications.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- H.1** Manufacturer shall provide with the proposal, a fully scaled five (5) view drawing of the unit proposed. Drawings shall be included with the supplier's proposal, depicting the proposed apparatus as the specifications are interpreted by the Supplier.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

Drawings shall be an accurate representation of the unit proposed, showing all principle dimensions, including wheel base, cab to axle length, overall height and length, compartment dimensions, location of emergency lighting, location of accessories such as fire suppression system, reels, etc. and any other items which would assist the City of Kirkland in evaluating the manufacturer's proposal.

**Drawings must depict the actual apparatus being proposed.**

**SECTION I-PROPOSAL/MANUFACTURE GUARANTEE**

- I.O** All proposals shall be accompanied by a Surety Bond or cashiers check in the amount of not less than five percent (5%) of the total proposal price, payable to the purchaser.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

- I.1** A 100% Performance bond may be required from the successful Supplier. Supplier shall state additional cost on proposal form to be added if performance bond is required.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

**SALES ENGINEER**

The successful supplier will designate a competent individual acceptable to the purchaser, to perform the contractor's Sales Engineer function. The Sales Engineer will provide a single point interface between the purchaser and the contractor on all matters concerning the successful delivery and completion of the apparatus. The Sales Engineer shall attend all construction meetings and inspection trips, at no additional expense to the City of Kirkland, throughout the entire construction process, to maintain the continuity of the sales process.

**Proposal Complies: Yes\_\_\_ No\_\_\_**

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**SECTION J-INSPECTION TRIPS**

**J.O** Supplier's proposal shall provide for four (4) factory inspection trips during the construction process. The first trip will be a chassis inspection trip prior to delivery of the chassis to the body builder. The second trip will be a pre-construction conference to be held at the manufacturer's facility to insure complete understanding of the specifications and Supplier's proposal and goals of the City of Kirkland, prior to any construction commencing. The third trip shall be for a pre-paint inspection trip, after the body and shelving have been completed and prior to final paint. The fourth inspection trip is for final inspection and acceptance. Note: The City of Kirkland retains the option to utilize the drive-away process as a part of the delivery and testing process.

**Proposal Complies: Yes\_\_\_\_\_ No\_\_\_\_\_**

**J.1** All trips shall be for two (2) City of Kirkland personnel, with all costs to be borne by the supplier. Air fare shall be utilized as the primary means of transportation to the factory, unless other transportation is deemed more desirable by the Kirkland Fire Chief. All proposals shall be based on air fare as the primary means of transportation.

**Proposal Complies: Yes\_\_\_\_\_ No\_\_\_\_\_**

**J.2** For questions regarding these specifications, suppliers may contact Fleet Supervisor Tim Llewellyn at (425) 587-3881 during normal office hours, Monday through Friday.

**J.3** Questions regarding the Request for Proposal process are to be directed to Barry Scott, Purchasing Agent at 425-587-3123.

**J.4** Contact with any elected official of the City of Kirkland regarding these specifications or the RFP process for the duration of the RFP process is prohibited. Any supplier violating this requirement may have their proposal rejected immediately without further explanation. **NO EXCEPTIONS.**

**SECTION K-SUBMISSION OF PROPOSALS**

**K.0** Submit the proposal in a sealed envelope addressed to:

**City of Kirkland  
Attn: Purchasing Agent – Job # 02-06-FB  
123 5<sup>TH</sup> Ave  
Kirkland, WA 98033**

**K.1** The City of Kirkland is not responsible for proposals delivered late. It is the responsibility of the Supplier to be sure the proposals are sent sufficiently ahead of time to be received **no later than 4:00 PM PST on December 27, 2005.**

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**MANADATORY PROPOSAL FORM**

**CITY OF KIRKLAND  
123 5<sup>TH</sup> AVENUE  
KIRKLAND, WA 98033**

**Manufacturer's Name & Address**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Supplier's Name & Address**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Person to contact** \_\_\_\_\_

\_\_\_\_\_

**Person to contact** \_\_\_\_\_

\_\_\_\_\_

After reviewing the attached specifications and information, we the above listed supplier, hereby submit the following Proposal to the City of Kirkland for the furnishing of one (1) new Special Operations Unit and equipment as specified in the attached specifications.

Complete Apparatus cost less tax, one unit. \$ \_\_\_\_\_

Delivery time will be \_\_\_\_\_ days from time of agreement. (Calendar days)

Inspection trips included as specified:

**Comply Yes ( ) No ( )**

Cost to deduct if not used: \$ \_\_\_\_\_

Drive out (delivery) allowance included per unit:

**Comply Yes ( ) No ( )**

Cost: \$ \_\_\_\_\_

Are there any exceptions to the specifications:

**Comply Yes ( ) No ( )**

Proof of insurance included:

**Comply Yes ( ) No ( )**

Washington Dealer License included:

**Comply Yes ( ) No ( )**

FOB to the City of Kirkland:

**Comply Yes ( ) No ( )**

Cooperative Purchasing provision:

**Comply Yes ( ) No ( )**

Proposal Bond Included:

**Comply Yes ( ) No ( )**

100% Performance Bond available:

**Comply Yes ( ) No ( )**

Added cost to proposal: \$ \_\_\_\_\_

Manufacturers distance from Kirkland, Washington: \_\_\_\_\_ Miles

Service Centers distance from Kirkland, Washington: \_\_\_\_\_ Miles

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ title: \_\_\_\_\_

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**Options to Special Operations Support Apparatus**

**ON BOARD GENERATOR #1**

**OPTION 1: ADD \$ \_\_\_\_\_ TO BASE BID PROPOSAL**

An Onan or approved equal PTO Driven Generator shall be provided and installed on the apparatus by the manufacturer. The generator shall be rated at not less than 25,000 watts, 120/240 VAC, 60 Hz. The generator shall be located underneath the apparatus and shall be mounted with due regard to ground clearance. Onan control panel shall be provided and installed in a location to be specified by the purchaser. Final location to be approved by the purchaser.

**OPTION 2: ADD \$ \_\_\_\_\_ TO BASE BID PROPOSAL**

**ON BOARD GENERATOR #2**

In addition to the PTO Driven Generator listed above, a stand-alone diesel powered generator shall be provided and installed on the apparatus by the manufacturer. The generator shall be an Onan CQMD or approved equal, rated at not less than 12,000 watts, 120/240 VAC, 60Hz. The generator shall be mounted on the roof of the rescue body, forward of the roof compartments. The generator shall be mounted in a manner that allows equal weight distribution from side to side.

The main fuel tank for the apparatus shall be the source of fuel for the stand-alone diesel powered generator. Fuel line(s) from the main fuel tank to the diesel generator shall be installed in a manner that does not intrude into any storage compartment. The fuel line(s) shall be protected from any type of foreseeable damage.

Any necessary components which may be required to make the system fully operational (fuel pump, etc.) shall be provided and installed with the unit. Any systems installed shall be mounted with due regard to service and/or replace the components.

The generator(s) circuit(s) shall be wired in a manner that facilitates either/or operation. That is, a switch shall be installed that allows electricity to be used from either the PTO driven generator or the stand alone diesel powered generator, not both simultaneously. This shall be provided through a manual change over circuit located adjacent to the other generator controls and properly labeled as to function.

*All other bid requirements apply.*

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**WILL-BURT TELESCOPING MAST LIGHT**

<b>OPTION 3: ADD \$_____ TO BASE BID PROPOSAL</b>
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A Will-Burt #NS15-5000 MH/DT remote control light mast shall be provided and mounted on the apparatus. The light mast shall have a total vertical height extension of 15 feet above the roof line, and have 5000 watt total lighting wired to the onboard power supply.

The light tower shall be mounted to the roof of the cab. The cab roof shall be reinforced as necessary to support the weight of the light tower. A protective diamond plate or painted shroud shall be installed on all four sides of the light tower to protect from damage. Shroud shall have the ability to self drain in the event of water collection and shall be easily removable as necessary to provide service access to the light tower.

The light mast shall include the following:

- Pistol Grip handheld remote on 25' cable.
- RCP rotation & tilt positioner.
- Two (2) 1000W/230 VAC metal halide heads.
- Two (2) 1500W/230 VAC quartz halogen heads.
- Dual tilt feature, allowing each vertical bank of lights to be rotated opposite of each other.
- Vertical "look-up" floodlights for added safety.
- Mounting frame with built-in tilt system.
- Auto-Stow which shall stow the mast in the proper alignment with one action of the switch.
- Master "shut-off" which shall disconnect all power to the mast in the event of an emergency.
- Owners Manual and service instructions. One (1) year limited warranty.

**BREATHING AIR CASCADE AND FILL SYSTEM**

<b>OPTION 4: ADD \$_____ TO BASE BID PROPOSAL</b>
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A high pressure breathing air cascade system shall be provided and installed by the manufacturer. The system shall consist of five (5) 6000 psi DOT cylinders, a Sierra booster pump, one dual cylinder fill station, air control panel and required air tubing. The cascade and fill station shall be mounted in compartments R-3 and R-4 in a manner that allows for equal and optimal weight distribution. Final location and mounting to be approved by the purchaser.

A Breathing Air Systems model # M2792M , Class 2, Dual Fill, or approved equal shall be provided and installed by the manufacturer. The approximate dimensions shall be 13.5"wide x 23.5"deep x 53"high and shall be rated at 6000 psi.

The air control panel and fill panel shall be designed in a fashion that allows for ease of use and efficient use of space.

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A Sierra Precision model # A2R air booster pump shall be supplied and installed by the manufacturer of the apparatus. The booster pump shall be capable of supplying air at preset pressures of 4500 psi *and* 6000 psi and have auto start and remote start/stop capabilities. The booster pump shall be powered by the on board electrical generator(s).

The preferred location for the five (5) 6000 psi DOT bottles is in compartment R3/L3 and installed in a manner that allows for equal and optimal weight distribution.

The preferred location for the fill station, air control panel, fill panel, and booster pump is in compartment R4 and installed in a manner that allows for ease of use and the storage of up to ten spare SCBA cylinders in the same compartment.

**CAB AND CHASSIS**

<b>OPTION 5: ADD/SUBTRACT \$ _____ TO/FROM BASE BID PROPOSAL</b>
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The cab shall be a Spartan Chassis, Inc. Flat Floor Diamond Series, model #DA41M, MFD medium four-door with a ten inch raised roof in lieu specified 20" raised roof model.

*All other bid specifications apply.*

**ROOF ACCESS STAIRWAY & COMPARTMENT CONFIGURATION**

<b>OPTION 6: ADD \$ _____ TO BASE BID PROPOSAL</b>
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A roof access stairway shall be fabricated as an integral part of the module design. The stairway shall consist of approximately five (5) steps (not including tailboard and topside deck) of equal run and rise of approximately 12" of run and 16" of rise per step. The roof access stairway shall be approximately 34" wide and be designed as much as possible to limit intrusion into compartments R4/L4.

A compartment shall be located below step # 1 (lowest step) on the rear of the apparatus that will house two (2) power cord reels. Reels shall be provided and installed by the manufacturer.

A compartment shall be located above step #5 (highest step). This compartment shall measure approximately 34" W x 16" H (rise) x 14' deep and shall be designed to take advantage of the space in the upper/center portion of the module interior without intruding on other useable space. The purpose of the compartment is to house a single section ground ladder and miscellaneous heavy timbers.

Each compartment shall have a door, hinged on the bottom, with a D ring handle. The doors shall be of sturdy construction and able to withstand the weight of not less than one (1) firefighter (as defined by NFPA) stepping on it while open.

Each compartment shall be manufactured to prevent road debris, dirt and moisture from entering the compartment. The compartment(s) shall be designed to the maximum appropriate dimensions based upon requirements for structural integrity of the body.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

There shall be two (2) recess mounted lights mounted to illuminate the stairway. The lights shall activate when the parking brake is set. Lights shall be LED type for long life and low amperage draw.

There shall be two (2) additional handrails provided, one on each side of the roof access stairway. The handrails shall be angled for optimum use during ingress and egress of the roof compartment area. The handrails shall be NFPA compliant 1-1/4" extruded aluminum tubing.

There shall be one fold down step located at the bottom of the roof access stairway to reduce the distance from the ground to the tailboard. The fold down step shall manually fold up during travel. The step shall activate the "door open warning light" in the cab when not in the stow position.

**ADJUSTABLE SHELVES, TRAYS AND ROLL OUT TILT DOWN TRAYS**

**OPTION 7-A: ADDITIONAL ROLL OUT TRAY PER SPECIFICATION:  
ADD \$\_\_\_\_\_ EACH TO BASE BID PROPOSAL**

**OPTION 7-B: ADDITIONAL ROLL OUT/TILT DOWN TRAY PER SPECIFICATION:  
ADD \$\_\_\_\_\_ EACH TO BASE BID PROPOSAL**

**OPTION 7-C: ADDITIONAL ADJUSTABLE SHELF PER SPECIFICATION:  
ADD \$\_\_\_\_\_ EACH TO BASE BID PROPOSAL**

Bidders shall state option price for each

**END OF OPTION LIST**

**Bid Specification & Information For:**  
**One (1) or Special Operations Support Apparatus**  
**CITY OF KIRKLAND NONCOLLUSION AFFIDAVIT**  
**Fire Department Class A Special Operations Unit**  
**JOB NO.: 02-06-FB**

STATE OF WASHINGTON     )  
  ) SS  
COUNTY OF KING         )

The undersigned, being duly sworn, on oath deposes and says that the person, firm, association, co-partnership or corporation herein named has not either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in the preparation and submission of a proposal to the Owner for consideration in the award of a contract for the equipment described as follows for the City of Kirkland:

Supply a Special Operations Unit to the Kirkland Fire Department per plans and specifications  
(Job #02-06-FB).

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Type Name

\_\_\_\_\_  
Title

Sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_, 2005.

\_\_\_\_\_  
Notary Public  
in and for the State of Washington  
Residing at \_\_\_\_\_  
My Commission Expires \_\_\_\_\_

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**SECTION 1: CAB & CHASSIS SPECIFICATIONS**

**CAB AND CHASSIS**

**1.00.0**

**Bidder Complies: Yes ( ) No ( )**

The cab and chassis shall be a Spartan Chassis, Inc. Flat Floor Diamond Series, model DA41L-LFD long four door with a 20" raised roof aluminum tilt cab built specifically for the fire service by a publicly held U.S. parent company specializing in chassis for all fire service applications. The cab and chassis shall meet the requirements of the National Fire Protection Association Standard 1901, (2003 edition or latest edition).

**1.00.1**

**Bidder Complies: Yes ( ) No ( )**

As the Spartan cab and chassis is commercially available to all manufacturers in the Fire Apparatus Industry and is the standard chassis for the City of Kirkland Fire Fleet, there shall be no exceptions allowed to the above listed requirement in effort allow the Purchaser to properly compare and evaluate all responsive proposals.

**ONE YEAR CHASSIS WARRANTY**

**1.01.0**

**Bidder Complies: Yes ( ) No ( )**

The chassis manufacturer shall warrant to the original purchaser the custom fire truck chassis for a period of twelve (12) months with the exception of the actual fire apparatus chassis frame which carries a lifetime warranty. The warranty period shall begin on the date the vehicle is delivered to the original purchaser. The warranty may include conditional items, which shall be listed in the detailed warranty document that shall be provided upon request.

**CAB CORROSION TREATMENT**

**1.02.0**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be protected by Z-Tech ZPA-1015 low VOC corrosion preventative. Z-Tech is a blend of rust/corrosion inhibiting petroleum and organometallic complex products dispersed with petroleum solvents to form a protective sealant against the elements. When applied to metal surfaces, a barrier film shall be formed thereby extending the useful life of the treated metal. Z-tech is the exclusive manufacturer of Z-bart coatings.

**CAB WARRANTY**

**1.03.0**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be warranted for a period of ten (10) years. Warranty conditions may apply and shall be listed in the detailed warranty document that shall be provided upon request.

**GVW RATING**

**1.04.0**

**Bidder Complies: Yes ( ) No ( )**

The chassis gross vehicle weight rating shall be a minimum of 42,000 lbs.

**CHASSIS WHEELBASE**

**1.05.0**

**Bidder Complies: Yes ( ) No ( )**

The proposed chassis wheelbase shall be listed on the bidder's drawings. The final wheelbase shall be determined at the pre-construction conference.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**FRAME**

**1.06.0**

**Bidder Complies: Yes ( ) No ( )**

The frame side rails shall be black powder coated "C" channel type 10.25" x 3.5" x .38" with an inner channel 9.44" x 3.13" x .38" of 110,000 psi minimum yield high strength steel, a RBM of 3,315,214 inch pounds and a section modulus of 30.14 cubic inches.

**1.06.1**

**Bidder Complies: Yes ( ) No ( )**

A minimum of seven (7) fully gusseted bolted assembly crossmembers shall be installed using grade 8 flanged head bolts and flanged lock nuts.

**1.06.2**

**Bidder Complies: Yes ( ) No ( )**

The area between the axle suspension hangers shall be free of any holes or fasteners in the flanges. No welding shall be incorporated in attachment of components. All frame dimensional cutting shall be by a plasma cutter. All relief areas shall be cut in with a minimum 2" radius at intersection points with ground smooth edges to prevent a stress focal point.

**FRAME WARRANTY**

**1.07.0**

**Bidder Complies: Yes ( ) No ( )**

The frame and crossmembers shall carry a lifetime warranty to the original purchaser, which shall include all frame crossmembers.

**PAINT FRAME AND CHASSIS UNDER CARRIAGE**

**1.08.0**

**Bidder Complies: Yes ( ) No ( )**

The chassis under carriage consisting of frame, axles, driveline running gear, battery boxes, air tanks and other assorted chassis mounted components shall be painted with standard black paint. Paint shall be applied before airlines and electrical wiring is installed.

**FUEL TANK**

**1.09.0**

**Bidder Complies: Yes ( ) No ( )**

The fuel tank shall have a minimum capacity of fifty (50) gallons. The baffled tank shall be made of 12 gauge phosphate coated steel with chromate epoxy exterior finish. Fuel tank must be I.C.C. approved with certification plate attached.

**1.09.1**

**Bidder Complies: Yes ( ) No ( )**

The fuel tank shall be mounted under the frame, behind the rear axle on strap hangers with a "U" strap bolted front and rear so the tank can be easily dropped and removed. Strap mounting studs through the rail, hidden behind the body designs shall not be acceptable.

**1.09.2**

**Bidder Complies: Yes ( ) No ( )**

The tank shall have vent port to facilitate rapid filling without "blow-back". A roll over ball check vent shall be installed for temperature related fuel expansion.

**1.09.3**

**Bidder Complies: Yes ( ) No ( )**

Dual draw tubes and dual sender ports shall be installed. A 2" NPT fill ports shall be available for right or left hand fill. A 1/2" NPT drain plug shall be centered in the bottom of the tank.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**1.09.4**

**Bidder Complies: Yes ( ) No ( )**

Steel wire reinforced rubber supply and return hoses with reusable fittings shall be installed tank to engine.

**BUMPER EXTENSION**

**1.10.0**

**Bidder Complies: Yes ( ) No ( )**

A one piece, 10 gauge 304 polished stainless steel front bumper shall be provided. The bumper shall be 101" wide and 12" high, two (2) rib wrap-around type.

**1.10.1**

**Bidder Complies: Yes ( ) No ( )**

The bumper shall be extended 6.0" ahead of the cab.

**BUMPER APRON**

**1.11.0**

**Bidder Complies: Yes ( ) No ( )**

A 3/16" bright embossed aluminum tread plate apron shall be installed between the bumper and the front face of the cab. Stainless steel bolts shall be used to attach the apron to the bumper flange.

**CHROME PLATED TOW EYES**

**1.12.0**

**Bidder Complies: Yes ( ) No ( )**

Two chrome plated tow eyes shall be installed under the front bumper. The eyes shall be fabricated from 3/4" thick #1020 ASMT-A36 hot rolled steel. The inside diameter of the eye shall be 2.00" and have a chamfered edge. The tow eyes shall be attached directly to the frame rails with grade "8" bolts.

**AIR HORNS**

**1.13.0**

**Bidder Complies: Yes ( ) No ( )**

Dual Grover Stuttertone 24" air horns shall be recessed in the front bumper, both located on the driver's side.

**1.13.1**

**Bidder Complies: Yes ( ) No ( )**

A 3/8" (minimum size) air line "teed" equal distance from each horn shall be installed.

**1.13.2**

**Bidder Complies: Yes ( ) No ( )**

An additional 1200 cu. in. air reservoir shall be installed and isolated to prevent depletion of the air to the air brake system and to act as a supply tank for operating air equipment. It shall be plumbed with a 90 psi pressure protection valve on the reservoir supply side.

**1.13.3**

**Bidder Complies: Yes ( ) No ( )**

Air horns actuation shall be accomplished by the steering wheel horn button and a right side officer's push button switch located on the floor.

**HORN SELECTOR SWITCH**

**1.13.0**

**Bidder Complies: Yes ( ) No ( )**

A three (3) way rocker switch shall be installed in the switch panel between the driver and officer to allow control of either the siren, air horn or electric horn from the steering wheel horn button. Electric horn shall sound by default when selector switch is in either position (FMVSS requirement).

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**CPI SPEAKER**

**1.14.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) Cast Products, Inc. bright aluminum 100 watt speaker shall be recessed in the front bumper centered. The siren speaker shall be wired to an electronic siren located later within this specification.

**1.14.1**

**Bidder Complies: Yes ( ) No ( )**

The speaker shall be bolted to the bumper by means of a polished aluminum trim ring on the front face of the bumper.

**AIR HORN/SIREN SELECTOR SWITCH**

**1.15.0**

**Bidder Complies: Yes ( ) No ( )**

A rocker switch shall be installed in the switch panel between the driver and officer to allow control of either the air horn or the siren from the steering wheel horn button.

**MECHANICAL SIREN FEDERAL Q2B**

**1.16.0**

**Bidder Complies: Yes ( ) No ( )**

A Federal Q2B 10" electric siren shall be recessed in the officer's side of the front bumper. Only the motor shall be recessed, with the front stator and grille protruding from the front face of bumper. Two (2) chrome plated protective steel straps shall be installed vertically across the front of the siren grille.

**1.16.1**

**Bidder Complies: Yes ( ) No ( )**

Siren shall be activated with foot switches for the officer and driver. A siren-brake switch shall be installed in the switch panel.

**FRONT AXLE**

**1.17.0**

**Bidder Complies: Yes ( ) No ( )**

The front axle shall be an ArvinMeritor MFS-18 with a 3.74" drop and a 71.00" KPI. It shall have a capacity of 18,000 pounds GAWR.

**FRONT WHEEL BEARINGS OIL LUBRICATED**

**1.18.0**

**Bidder Complies: Yes ( ) No ( )**

The front axle wheel bearings shall be oil lubricated and come equipped with an oil level visual inspection window.

**FRONT AXLE CRAMP ANGLE**

**1.19.0**

**Bidder Complies: Yes ( ) No ( )**

The hub piloted, MFS-18 front axle cramp angle shall turn 48 degrees to the left and a minimum of 44 degrees turning to the right, when using the 385/65R 22.5 front tires.

**1.19.1**

**Bidder Complies: Yes ( ) No ( )**

The cramp angle shall be set to achieve the tightest turning radius possible with the selected components of the vehicle. Each front wheel shall be set to zero degrees, and the wheel turned until it reaches the steering stop. This measurement shall be the cramp angle.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**1.19.2**

**Bidder Complies: Yes ( ) No ( )**

Under no circumstances shall the chassis manufacturer modify or distort any of the front axle components or steering components to achieve the front cramp angle and void any component warranties.

**FRONT AXLE WARRANTY**

**1.20.0**

**Bidder Complies: Yes ( ) No ( )**

The Meritor™ **three- (3) year** parts and labor warranty shall be provided with this axle, plus an additional **two- (2) years** of parts only coverage. Meritor™ shall also provide a **one- (1) year** parts and labor warranty for wheel seals. The seal warranty shall apply to our standard Meritor™ wheel seals and shall not apply to another specified seal. If other seals are specified, the warranty shall be parts only.

**CHASSIS ALIGNMENT**

**1.21.0**

**Bidder Complies: Yes ( ) No ( )**

The chassis frame rails shall be cross checked for length and squareness. Front and rear axles shall be laser aligned. Tires and wheels shall be aligned and toe-in set on the front tires at the chassis manufacturer's facility.

**1.21.1**

**Bidder Complies: Yes ( ) No ( )**

The completed apparatus should be rechecked for proper alignment after the chassis has been fully loaded.

**FRONT STEERING GEAR**

**1.22.0**

**Bidder Complies: Yes ( ) No ( )**

The hydraulic power assist steering gear shall be a TRW TAS-85 with a hydraulic power assist cylinder. A Vickers hydraulic power steering pump shall be gear driven from the engine. The steering ratio shall be 20.3:1 and have 6.2 turns stop to stop.

**STEERING COLUMN AND WHEEL**

**1.23.0**

**Bidder Complies: Yes ( ) No ( )**

The Douglas Autotech steering column shall be a 7 position tilt and 2.25" telescopic type with a 18" steering wheel. The steering wheel shall be covered with black absorbite padding.

**1.23.1**

**Bidder Complies: Yes ( ) No ( )**

The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and head lamp dimmer switch on the turn lever.

**1.23.2**

**Bidder Complies: Yes ( ) No ( )**

The four-way hazard lights shall be operated by a switch on the steering column to be wired for use with the battery switch in the off position.

**FRONT TIRES**

**1.24.0**

**Bidder Complies: Yes ( ) No ( )**

The front tires shall be Michelin 385/65R 22.5 18 ply "J" tubeless radial XTE-2 highway tread with 22.5 x 12.25, ten (10) stud disc wheels. The tires and wheels shall be rated at 20,000 lbs.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**FRONT WHEELS**

**1.25.0**

**Bidder Complies: Yes ( ) No ( )**

The front wheels shall be Accuride hub piloted, 12.25" x 22.5" polished aluminum wheels, complete with bright nut and hub covers.

**FRONT MUD FLAPS**

**1.26.0**

**Bidder Complies: Yes ( ) No ( )**

The front wheel wells shall have mud flaps installed on them.

**FRONT BRAKES**

**1.27.0**

**Bidder Complies: Yes ( ) No ( )**

The front brakes shall be ArvinMeritor 16.5" x 6" S-cam type with ArvinMeritor automatic slack adjusters.

**FRONT SHOCK ABSORBERS**

**1.28.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Bilstein mono-tubular design, nitrogen gas charged shock absorbers shall be part of the front axle suspension. The Bilstein shocks shall warranted for a period of five (5) years.

**FRONT SUSPENSION**

**1.29.0**

**Bidder Complies: Yes ( ) No ( )**

The springs shall be elliptical type, four (4) leaf, 54" long, 4" wide with a military double wrapped front eye. Both spring eyes shall have a case hardened threaded bushing installed with lubrication counterbore and lubrication land off crossbore with grease fitting. The spring capacity shall meet or exceed the capacity of the front axle.

**REAR AXLE**

**1.30.0**

**Bidder Complies: Yes ( ) No ( )**

The rear axle shall be an ArvinMeritor model #RS-24-160 with single reduction gearing and shall have a rated capacity of 24,000 pounds GAWR.

**OIL LUBRICATED REAR WHEEL BEARINGS**

**1.31.0**

**Bidder Complies: Yes ( ) No ( )**

The rear axle shall have oil lubricated wheel bearings.

**REAR AXLE WARRANTY**

**1.32.0**

**Bidder Complies: Yes ( ) No ( )**

The Meritor™ **three- (3) year** parts and labor warranty shall be provided with this axle, plus an additional **two- (2) years** of parts only coverage. Meritor™ shall also provide a **one- (1) year** parts and labor warranty for wheel seals. The seal warranty shall apply to our standard Meritor™ wheel seals and shall not apply to another specified seal. If other seals are specified, the warranty shall be parts only.

**REAR AXLE GEAR RATIO**

**1.33.0**

**Bidder Complies: Yes ( ) No ( )**

The gear ratio shall produce a minimum road speed of 70 mph at engine governed speed. A computer generated analysis is included in this proposal, and shall be re-confirmed at the chassis preconstruction meeting to ensure the desired performance of the Purchaser.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**REAR TIRES**

**1.34.0**

**Bidder Complies: Yes ( ) No ( )**

The rear tires shall be Michelin 11R 22.5 16 ply "H" tubeless radial XDN2 M&S tread with 22.5 x 8.25, ten (10) stud disc wheels. Tires and wheels shall be rated at 24,000 lbs.

**REAR WHEELS**

**1.34.0**

**Bidder Complies: Yes ( ) No ( )**

The rear axle wheels shall be Accuride hub piloted, 8.25" x 22.5" polished aluminum wheels, complete with bright nut covers and rear axle hub covers.

**REAR BRAKES**

**1.35.0**

**Bidder Complies: Yes ( ) No ( )**

The rear brakes shall be 16.5" x 7" "S" cam type with Arvin Meritor automatic slack adjusters.

**REAR SUSPENSION**

**1.36.0**

**Bidder Complies: Yes ( ) No ( )**

The rear suspension shall be a Reyco 79KB vari-rate, captive slipper type, with 57.5" x 3" springs. One (1) adjustable and one (1) fixed torque rod shall be provided.

**1.36.1**

**Bidder Complies: Yes ( ) No ( )**

The spring capacity must meet or exceed the capacity of the rear axle.

**ABS SYSTEM**

**1.37.0**

**Bidder Complies: Yes ( ) No ( )**

A Meritor Wabco four sensor four modulator anti-lock braking system shall be installed on the front and rear ArvinMeritor axles for safer vehicle control during braking and reduced stopping distance in skid conditions.

**1.37.1**

**Bidder Complies: Yes ( ) No ( )**

The electronic monitoring system shall incorporate diagonal circuitry to monitor wheel speed during braking through a sensor and tone ring on each wheel.

**1.37.2**

**Bidder Complies: Yes ( ) No ( )**

A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. A momentary test switch shall be installed to test the system for diagnostic codes.

**1.37.3**

**Bidder Complies: Yes ( ) No ( )**

The ABS system shall automatically disengage the auxiliary braking system device when required.

**1.37.4**

**Bidder Complies: Yes ( ) No ( )**

The Meritor Wabco ABS system shall have a three (3) year or 300,000 mile warranty provided by Meritor Wabco Vehicle Control Systems.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**BRIGHT WHEEL TRIM**

**1.38.0**

**Bidder Complies: Yes ( ) No ( )**

The front and rear axle wheels shall have stainless steel lug nut covers (chrome plated steel lug nut covers shall not be acceptable). The front axles shall be covered with stainless steel baby moons with hole to view the oil seal window. The rear axles shall be covered with foam mounted stainless steel high hats.

**1.38.1**

**Bidder Complies: Yes ( ) No ( )**

The lug nut covers, baby moons and high hats shall be American made Real Wheels brand mirror finish, 304L grade, non-corrosive stainless steel meeting D.O.T. certification standards. All stainless steel baby moons and high hats shall carry a lifetime warranty.

**REAR AXLE AIR BRAKE SYSTEM**

**1.39.0**

**Bidder Complies: Yes ( ) No ( )**

A FMVSS 121 and NFPA rapid build-up, compliant air brake system shall be provided. It shall include three (3) air reservoirs with a total of 4136 cubic inch of air capacity.

**1.39.1**

**Bidder Complies: Yes ( ) No ( )**

A Bendix E6 floor mounted tread valve shall be mounted in the cab for service brake control.

**1.39.2**

**Bidder Complies: Yes ( ) No ( )**

A Bendix PP1 control valve shall operate the parking brake system.

**1.39.3**

**Bidder Complies: Yes ( ) No ( )**

Emergency braking shall be controlled through the Bendix treadle valve and modulated through a Meritor Wabco inversion valve.

**1.39.4**

**Bidder Complies: Yes ( ) No ( )**

The rear axle spring brakes are to automatically apply in case of air pressure loss below 60 psi with a mechanical means for releasing the spring brake chambers.

**FRONT WHEEL SERVICE BRAKE LOCK-UP SYSTEM**

**1.40.0**

**Bidder Complies: Yes ( ) No ( )**

A front wheel service brake lock-up system shall be installed which shall apply both the front air and rear spring brakes upon application of the PP-1 push-pull valve in the cab.

**AIR TANK MOUNTING**

**1.41.0**

**Bidder Complies: Yes ( ) No ( )**

The air tanks shall be installed one (1) inch inboard of the frame rails.

**AIR DRYER**

**1.42.0**

**Bidder Complies: Yes ( ) No ( )**

A Meritor Wabco system saver 1200 spin-on desiccant air dryer with a 12-volt, 100-watt automatic heated moisture ejector shall be installed in the air brake system.

**1.42.1**

**Bidder Complies: Yes ( ) No ( )**

The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**1.42.2**

**Bidder Complies: Yes ( ) No ( )**

The Meritor Wabco air dryer shall come with a three (3) year or 300,000 mile warranty provided by Meritor Wabco Vehicle Control Systems.

**MANUAL DRAINS ON AIR TANKS**

**1.43.0**

**Bidder Complies: Yes ( ) No ( )**

Manual drains shall be installed on all reservoirs of the air brake system.

**NYLON AIR LINE TUBING**

**1.44.0**

**Bidder Complies: Yes ( ) No ( )**

A dual air system plumbed with color coded reinforced nylon tubing air lines shall be installed. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) shall be blue.

**1.44.1**

**Bidder Complies: Yes ( ) No ( )**

Brass compression type fittings shall be used on the nylon tubing. All drop hoses shall be fiber reinforced neoprene covered hoses.

**AIR COMPRESSOR**

**1.45.0**

**Bidder Complies: Yes ( ) No ( )**

The air compressor on the engine shall be a Wabco capable of producing a minimum of 18.7 cfm at 1250 engine rpm. It shall be gear driven, engine oil pressure lubricated and cooled by the engine cooling system. The air compressor shall have a 5-year warranty.

**ENGINE**

**1.46.0**

**Bidder Complies: Yes ( ) No ( )**

A Cummins Series ISL-400, turbocharged, charge air cooled engine shall be provided.

TYPE: In-Line six (6) cylinder, 4 cycle  
HORSEPOWER: 400 @ 1900-2200 rpm  
TORQUE: 1200 lb.ft. @ 1300 rpm  
DISPLACEMENT: 540 cu.in.  
GOVERNOR: Electronic

**ENGINE AUTHORIZATION LETTER REQUIREMENT**

**1.47.0**

**Bidder Complies: Yes ( ) No ( )**

The chassis manufacturer shall provide an authorization letter from Cummins authorizing the use of this powerplant in the chassis proposed. In addition, the chassis manufacturer shall provide certification that the engine proposed has passed all current Federal EPQ Requirements in the cab design proposed.

**ENGINE OIL FILTER**

**1.48.0**

**Bidder Complies: Yes ( ) No ( )**

A primary full flow, and secondary full flow, spin-on oil filter shall be installed as part of the engine's lubrication system.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**ENGINE OIL LEVEL CHECK**

**1.49.0**

**Bidder Complies: Yes ( ) No ( )**

A low engine oil level switch shall be provided that shall indicate when the engine oil is approximately four (4) quarts or more low. The switch shall light a red "LOW OIL LEVEL" indicator light in the dash. The indicator shall only function while the ignition switch is on and the engine is not running.

**FUEL FILTER**

**1.50.0**

**Bidder Complies: Yes ( ) No ( )**

A spin on engine Fleetguard FS-1000 series coolant filter with shut-off valve shall be provided.

**ENGINE WARRANTY**

**1.51.0**

**Bidder Complies: Yes ( ) No ( )**

The engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

**EXHAUST SYSTEM**

**1.52.0**

**Bidder Complies: Yes ( ) No ( )**

The exhaust system shall be installed under the frame with the discharge to the right side forward of the rear tires.

**1.52.1**

**Bidder Complies: Yes ( ) No ( )**

A muffler and .065 wall aluminized steel exhaust tubing supported by bolted on frame brackets shall be installed.

**1.52.2**

**Bidder Complies: Yes ( ) No ( )**

Stainless steel flex tubing is to be installed between exhaust pipe and muffler. System joints shall be connected with lapping band clamps.

**TAIL PIPE CHROME EXTENSION**

**1.53.0**

**Bidder Complies: Yes ( ) No ( )**

A radiused chrome exhaust tail pipe extension, to direct exhaust gases downward, which terminates on the right hand side of the chassis, forward of the rear tires, shall be installed with a galvaneal band clamp.

**JACOBS ENGINE BRAKE**

**1.54.0**

**Bidder Complies: Yes ( ) No ( )**

A Jacobs engine compression brake, for the six (6) cylinder engine, with brake light actuation and cutout relay when in pump mode shall be installed. The engine brake shall activate upon release of accelerator when in operation mode. A dash mounted switch with "On/Off" function shall be installed.

**1.54.1**

**Bidder Complies: Yes ( ) No ( )**

The Jacobs engine brake shall activate an aggressive downshifting of the Allison transmission to enhance the brake's performance.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**AIR CLEANER**

**1.55.0**

**Bidder Complies: Yes ( ) No ( )**

The air cleaner shall be Farr #62891-001 dry type with a replaceable element, it shall have an outside air intake with an ember separator filter and an indicator light in the warning light cluster to show when the air cleaner element requires replacement.

**1.55.1**

**Bidder Complies: Yes ( ) No ( )**

The ember separator shall be located behind the officer's side "hinged" front warning/headlight cluster with no visible air intake allowing more leg room in the cab. The system shall be hidden behind the front cab face, which permits better control of dirt and ember protection. Air intakes provided over the wheel well shall not be utilized due to ingestion of dirt and water from the front wheels.

**COOLING SYSTEM**

**1.56.0**

**Bidder Complies: Yes ( ) No ( )**

The cooling system shall have sufficient capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the engine and transmission manufacturer and EPA requirements. The complete cooling system shall be mounted in a manner to isolate the system from vibration and stress. The individual cores shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining core(s).

**RADIATOR**

**1.56.1**

**Bidder Complies: Yes ( ) No ( )**

The radiator shall be a cross-flow design constructed completely of aluminum with welded side tanks. The radiator shall be bolted to the bottom of the charge air cooler to allow a single depth core, thus allowing a more efficient and serviceable cooling system. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

**SURGE TANK**

**1.56.2**

**Bidder Complies: Yes ( ) No ( )**

The cooling system shall be equipped with a surge tank that is capable of being filled and removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and sight glass to monitor the level of the coolant. The surge tank shall have a cap that meets the engine manufactures pressure requirements as well as the system design requirements.

**COOLANT**

**1.56.3**

**Bidder Complies: Yes ( ) No ( )**

The cooling package shall have Extended Life Coolant (ELC) installed. The use of supplemental coolant additives (SCA's) shall not be allowed, as this is part of the extended life coolant makeup. The use of ELC provides longer life and change intervals providing improved performance. The coolant shall contain ethylene glycol and deionized water to keep the coolant from freezing to a temperature of -34 degrees F.

**COOLANT FILTERS**

**1.56.4**

**Bidder Complies: Yes ( ) No ( )**

Engines equipped with coolant filters shall be supplied with standard non-chemical type filters.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**COOLANT HOSES & CLAMPS**

**1.57.0**

**Bidder Complies: Yes ( ) No ( )**

All radiator tubes shall be formed from aluminized steel tubing and installed with silicone hoses with stainless steel constant torque clamps.

**RECIRCULATION SHIELDS**

**1.58.0**

**Bidder Complies: Yes ( ) No ( )**

Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting the performance. When a center hosewell or equipment well is installed an additional shield may be required to redirect the airflow into the coolers.

**CHARGE AIR COOLER**

**1.59.0**

**Bidder Complies: Yes ( ) No ( )**

The charge air cooler shall be a cross-flow design constructed completely of aluminum with welded side tanks. The charge air cooler shall be bolted to the top of the radiator to allow a single depth core, thus allowing a more efficient and serviceable cooling system.

**CHARGE AIR COOLER HOSES & CLAMPS**

**1.60.0**

**Bidder Complies: Yes ( ) No ( )**

All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "T" style clamps meeting the engine manufactures requirements.

**COOLING SYSTEM FAN**

**1.61.0**

**Bidder Complies: Yes ( ) No ( )**

The engine cooling system shall incorporate a thermostatically controlled, clutched fan.

**1.61.1**

**Bidder Complies: Yes ( ) No ( )**

When the clutched fan is disengaged it shall facilitate improved vehicle performance, cab heating in cold climates, and fuel economy.

**1.61.2**

**Bidder Complies: Yes ( ) No ( )**

The fan shall automatically lock up when the vehicle is placed in pumping mode.

**1.61.3**

**Bidder Complies: Yes ( ) No ( )**

The fan shall be installed on the engine and includes a shroud. Recirculation shields shall be installed to insure that air, which has passed through the radiator, is not drawn through it again.

**TRANSMISSION COOLER**

**1.62.0**

**Bidder Complies: Yes ( ) No ( )**

The transmission cooler shall be a cross flow air to oil design constructed completely of aluminum with welded side tanks. The transmission cooler shall be bolted to the bottom of the radiator to allow a single depth core, allowing a more efficient and serviceable cooling system. The transmission cooler shall be mounted in such a manner as not to extend below the chassis frame by more than 1", allowing greater approach angles and ground clearance.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**TRANSMISSION HEAT EXCHANGER**

**1.63.0**

**Bidder Complies: Yes ( ) No ( )**

The transmission oil to water heat exchanger shall be installed to aid in cold climate conditions maintaining the transmission temperature at the operational level.

**SILICONE HEATER HOSE**

**1.64.0**

**Bidder Complies: Yes ( ) No ( )**

All heater system hoses shall be silicone with a stainless steel constant torque clamp approved for use with silicone hose.

**COOLANT FILTER**

**1.65.0**

**Bidder Complies: Yes ( ) No ( )**

An engine coolant filter with a shut-off valve shall be installed on the chassis. The location of the filter shall allow for easy maintenance.

**LOW COOLANT INDICATOR LIGHT AND TONE ALARM**

**1.66.0**

**Bidder Complies: Yes ( ) No ( )**

A low engine coolant indicator light located in the warning lamp center in the instrument panel shall be provided. In addition an audible tone alarm shall be provided to warn of low coolant condition.

**TRANSMISSION**

**1.67.0**

**Bidder Complies: Yes ( ) No ( )**

The transmission shall be an Allison 3000 EVS automatic with electronic controls. The transmission shall have two (2) 10-bolt PTO pads.

**1.67.1**

**Bidder Complies: Yes ( ) No ( )**

The transmission shall be equipped with an air to oil transmission cooler located below the radiator allowing a single depth core and efficient cooling package. The transmission cooler shall be mounted in a manner to allow maximum approach angle by not protruding below the frame more than an inch. The transmission cooler shall be constructed completely of aluminum with welded side tanks. The transmission shall have two (2) internal oil filters.

**1.67.2**

**Bidder Complies: Yes ( ) No ( )**

The transmission gear ratios shall be:

The transmission gear ratios shall be:

1st 3.49:1

2nd 1.86:1

3rd 1.41:1

4th 1.00:1

5th 0.75:1

6th 0.64:1 (if applicable)

Rev 5.03:1

**TRANSMISSION TOUCH PAD**

**1.68.0**

**Bidder Complies: Yes ( ) No ( )**

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and reach.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**TRANSMISSION OIL LEVEL SENSOR**

**1.69.0**

**Bidder Complies: Yes ( ) No ( )**

The transmission shall be equipped with the oil level sensor (OLS). This sensor shall allow the operator to obtain an indication of the fluid level from the shift selector. The sensor display shall provide the following checks, correct fluid level, low fluid level and high fluid level. Access to the power steering fluid may be limited.

**SYNTHETIC TRANSMISSION FLUID**

**1.70.0**

**Bidder Complies: Yes ( ) No ( )**

Castrol "Transynd" or an equivalent synthetic TES 295 transmission fluid shall be utilized to fill the 4000 EVS transmission.

**TRANSMISSION MODE**

**1.71.0**

**Bidder Complies: Yes ( ) No ( )**

The transmission, upon start-up, shall select five (5) speed operation. By pressing the "mode" switch on the shift pad (mode on) provides sixth (6) speed overdrive.

**DRIVELINES**

**1.72.0**

**Bidder Complies: Yes ( ) No ( )**

All drivelines on the rear axle chassis shall be 1710 heavy duty series with "glide coat" splines on all slip shafts.

**TRANSMISSION WARRANTY**

**1.73.0**

**Bidder Complies: Yes ( ) No ( )**

The Allison 3000 EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

**ELECTRICAL SYSTEM**

**1.74.0**

**Bidder Complies: Yes ( ) No ( )**

A single starting system shall be installed per NFPA 1901. The electrical system shall be 12 volt, suppressed per SAE J551 with six (6) Douglas BCI-31 950 CCA batteries with 210 minute reserve capacity and 3/0 welding type dual path starter cables per SAE J541.

**1.74.1**

**Bidder Complies: Yes ( ) No ( )**

Wiring shall be appropriate gauge cross link 311 deg. F. insulation. The chassis wiring shall be circuit numbered, function coded, and color coded. The wiring shall be protected by 250 deg. F. minimum high temperature flame retardant loom.

**1.74.2**

**Bidder Complies: Yes ( ) No ( )**

The starting system shall be supplied with the following:

- One (1) Cole-Hersee #2484 master battery switch
- One (1) Cole-Hersee #EX26654A ignition switch
- One (1) starter button
- One green LED indicator for battery "on".
- One green LED indicator for ignition "on".



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**APPARATUS WIRING PANEL**

**1.75.0**

**Bidder Complies: Yes ( ) No ( )**

An apparatus wiring panel shall be installed on the officer side bulkhead below the dash and shall include eight (8) open circuits with three (3) 20 amp, one (1) 30 amp, three (3) 10 amp and one (1) 15 amp relays and breakers with trigger wires run to the rocker switch panel.

**BATTERY JUMPER STUDS**

**1.76.0**

**Bidder Complies: Yes ( ) No ( )**

Battery jumper studs shall be provided under the drivers side battery box. The studs allow the vehicle to be jump started or cab to be raised in an emergency due to battery failure.

**EMI/RFI PROTECTION**

**1.77.0**

**Bidder Complies: Yes ( ) No ( )**

The electrical system proposed shall include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components shall be used to insure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.

**1.77.1**

**Bidder Complies: Yes ( ) No ( )**

The apparatus proposed shall have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor shall be able to demonstrate the EMI and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.

**1.77.2**

**Bidder Complies: Yes ( ) No ( )**

EMI/RFI susceptibility shall be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. The electrical system shall be designed for full compatibility with low level control signals and high powered 2-way radio communication systems. Harness and cable routing shall be given careful attention to minimize the potential for conducting and radiated EMI-RFI susceptibility.

**INSTRUMENTATION**

**1.78.0**

**Bidder Complies: Yes ( ) No ( )**

An ergonomically designed instrument panel shall be provided. The gauges shall be backlit with red LED lamps. All gauges shall be driven by stepper motor movements. The instrumentation system shall be multiplexed and shall receive engine and transmission information over the J1587 data bus to reduce the number of redundant sensors. The following gauges listed below shall be provided.

**1.78.1**

**Bidder Complies: Yes ( ) No ( )**

One (1) electronic tachometer with integral digital hour meter. The scale on the tachometer shall read from 0 to 3000 RPM. The hourmeter shall display engine hours of operation.

**1.78.2**

**Bidder Complies: Yes ( ) No ( )**

One (1) electronic speedometer with integral digital odometer/tripodometer. The speedometer shall have a dual scale with miles per hour (MPH) as the dominant scale and kilometers per hour (KPH) on the minor scale. The speedometer scale shall read from 5 to 85 MPH (5 to 140 KPH). The odometer shall display miles.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**1.78.3**

**Bidder Complies: Yes ( ) No ( )**

One (1) three function gauge with primary air pressure, secondary air pressure and fuel level. The scale on the air pressure gauges shall read from 0 to 140 pounds per square inch (PSI). The air pressure scales shall be non-linear to expand the scales in the region of normal operation. The scale on the fuel level gauge shall read from empty to full.

**1.78.4**

**Bidder Complies: Yes ( ) No ( )**

One (1) four function gauge with engine oil pressure, coolant temperature, transmission oil temperature and a voltmeter. The scale on the engine oil pressure gauge shall read from 0 to 140 pounds per square inch (PSI). The engine oil pressure scale shall be non-linear expand the scale in the region of normal operation. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (F). The scale on the transmission oil temperature gauge shall read from 100 to 300 degrees Fahrenheit (F). The scale on the voltmeter shall read from 8 to 16 volts.

**1.78.5**

**Bidder Complies: Yes ( ) No ( )**

The instrument panel shall contain an Annunciator Module that contains the following indicator lights. All indicator lights shall contain LED lamps.

**RED LAMPS**

**1.79.0**

**Bidder Complies: Yes ( ) No ( )**

Red warning lamps shall be provided for the following functions:

- Low Air - indicates low air pressure in either system one or system two.
- Low Oil Level - indicates low engine oil pressure.
- Low Oil Level - indicates low engine oil level. (1)
- Stop Engine - indicates critical engine fault.
- High Coolant Temp - indicates excessive engine coolant temperature.
- Low Coolant Level - indicates low engine coolant level. (1)
- High Trans Temp - indicates excessive transmission oil temperature.
- Air Filter - indicates excessive engine air intake restriction.
- Volts - indicates high or low system voltage.
- Low Fuel - indicates low fuel.
- Cab Ajar - indicates tilt cab is not locked down. (1)
- Park Brake - indicates park brake is set.

**GREEN LAMPS**

**1.80.0**

**Bidder Complies: Yes ( ) No ( )**

Green indicator lamps shall be provided for the following functions:

- Left and Right turn signal indicators.
- Aux Brake Active - indicates secondary braking device is active. (1)
- High Idle - indicates engine high idle is active. (1)
- Low Trac - indicates low wheel traction for automatic traction control (ATC) equipped vehicles, also indicates mud/snow mode is active for ATC system. (1)

**YELLOW LAMPS**

**1.81.0**

**Bidder Complies: Yes ( ) No ( )**

Yellow indicator lamps shall be provided for the following functions:

- Check Engine - indicates non-critical engine fault.
- Check Trans - indicates transmission fault.
- Wait to Start - indicates active engine air preheat cycle. (2)

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- ABS - indicates anti-lock brake system fault.
- Water in Fuel - indicates presence of water in fuel filter. (1)
- Engine Maint - indicates engine maintenance is required. (1)

**BLUE LAMP**

**1.82.0**

**Bidder Complies: Yes ( ) No ( )**

Blue indicator lamps shall be provided for the following function:

- High beam indicator. The high beam function shall be activated with the steering column mounted turn signal lever.

**AUDIBLE ALARMS**

**1.83.0**

**Bidder Complies: Yes ( ) No ( )**

The instrumentation system shall provide a constant audible alarm for the following situations:

- Low air pressure.
- Low engine oil pressure.
- High engine coolant temperature.
- High transmission oil temperature.
- Low coolant level. (1)
- High or low system voltage
- Critical engine fault (Stop Engine).

**1.83.1**

**Bidder Complies: Yes ( ) No ( )**

The instrumentation system shall provide a three second alarm every three minutes for the following situations:

- Low fuel.
- Water in fuel. (1)

**1.83.2**

**Bidder Complies: Yes ( ) No ( )**

Note:

- (1) Feature only available when optionally equipped, and indicated elsewhere within this specification.
- (2) Feature only available on engines with preheat capability, if indicated elsewhere within this specification.

**1.83.3**

**Bidder Complies: Yes ( ) No ( )**

Thermal reset circuit breakers and relays shall be installed behind the instrument panel.

**ROCKER SWITCH CONSOLE**

**1.84.0**

**Bidder Complies: Yes ( ) No ( )**

A three (3) section, double row switch console shall be provided and shall be an integral part of the engine tunnel, with easy switch access to both the driver and officer. The console shall consist of an angled driver's side panel, center main panel and angled officer's side panel.

The switch console shall not be an add on type console.

**DRIVER ROCKER SWITCH PANEL**

**1.85.0**

**Bidder Complies: Yes ( ) No ( )**

The driver's side panel shall include the following functions:

- Rocker type headlight switch with instrument lamp slide dimmer.

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- Intermittent windshield wiper/washer switch.
- Secondary braking device rocker switches with on/off and hi/med/low.

**CENTER ROCKER SWITCH PANEL**

**1.86.0**

**Bidder Complies: Yes ( ) No ( )**

The center main rocker switch panel shall include twelve (12) LED backlit and labeled rocker switches. The two (2) rows of switches shall be located in the left two sections of the center panel. The remaining right section of the panel shall be left free to accommodate flush mounted equipment.

**OFFICER ROCKER SWITCH PANEL**

**1.87.0**

**Bidder Complies: Yes ( ) No ( )**

The officer's side switch panel shall be a blank panel with no switches to accommodate flush mounted devices. Final design to be determined at preconstruction for various options.

**UNITROL ELECTRONIC SIREN**

**1.89.0**

**Bidder Complies: Yes ( ) No ( )**

A Unitrol model 480K electronic siren & warning system control module shall be provided and installed in the center main switch lower panel. Final programming and layout to be determined by purchaser.

**POWER AND GROUND STUDS - BATTERY DIRECT**

**1.90.0**

**Bidder Complies: Yes ( ) No ( )**

Power and grounding studs shall be provided and installed behind the electrical center cover with a breaker. The studs shall be #10 and capable of carrying up to a 40 amp battery direct load.

**POWER AND GROUND STUDS – BEHIND ELECTRICAL PANEL**

**1.91.0**

**Bidder Complies: Yes ( ) No ( )**

Power and grounding studs shall be provided and installed behind the electrical center cover with a breaker. The studs shall be 3/8" and capable of carrying up to a 40 amp battery direct load.

**CLASS ONE TOTAL SYSTEM MANAGER WITH HIGH IDLE & SWITCH**

**1.92.0**

**Bidder Complies: Yes ( ) No ( )**

A Class One Total System Manager load sequencing and shedding system shall be installed.

**1.92.1**

**Bidder Complies: Yes ( ) No ( )**

The sequencer system shall be capable of sequentially energizing up to twelve (12) pre-selected outputs, and capable of shedding up to eight (8) outputs.

**1.92.2**

**Bidder Complies: Yes ( ) No ( )**

The system shall also monitor the vehicle's battery voltage. When electrical loads exceed the alternator output of approximately 12.5 volts, pre-selected loads shall begin to shut down.

**1.92.3**

**Bidder Complies: Yes ( ) No ( )**

An LED indicator shall be installed on the cab dash to indicate when the load shedding circuit is functioning.

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**1.92.4**

**Bidder Complies: Yes ( ) No ( )**

A low voltage light and alarm with automatic high idle actuation enabled shall be part of the system

**1.92.5**

**Bidder Complies: Yes ( ) No ( )**

A momentary rocker switch shall be installed in the rocker switch panel to provide a pre-set elevated engine speed. The idle shall operate only with the park brake "on" and the transmission selector in neutral.

**ALTERNATOR**

**1.93.0**

**Bidder Complies: Yes ( ) No ( )**

A 270 amp Leece Neville 12 volt alternator model #4864JB with integral regulator and #10 screw AC terminals shall be installed.

**BATTERY CONDITIONER**

**1.94.0**

**Bidder Complies: Yes ( ) No ( )**

A Kussmaul Auto Charge 35/10, 35 amp battery conditioner and 10 amp power supply shall be installed in the cab behind the driver's seat.

**1.94.1**

**Bidder Complies: Yes ( ) No ( )**

The remote charge indicator shall be located in the cab on the right hand dash and shall be viewed through the bottom of the right windshield.

**1.94.2**

**Bidder Complies: Yes ( ) No ( )**

The conditioner shall incorporate a 10 amp Battery Saver to provide a 12 volt power supply for a mobile data terminal, radio or hand held lights. The Battery Saver automatically disconnects the accessory loads from the battery when the shoreline is plugged in and powers them from an internal power supply.

**KUSSMAUL SUPER AUTO-EJECT RECEPTACLE**

**1.95.0**

**Bidder Complies: Yes ( ) No ( )**

A Kussmaul 20 amp #091-20WP-120 auto-eject electrical receptacle with weatherproof cover and box shall be installed on the left side of the apparatus. The auto eject shall include a #091-18-098 Dynamic Disconnect feature. It shall automatically eject the plug when the starter button is depressed.

**1.93.1**

**Bidder Complies: Yes ( ) No ( )**

The U.L. maximum allowable amperage draw on receptacles is generally 80% of their listed rating, for example, the 20 amp receptacle should not carry more than 16 amp continuous load. When adding the different amperage draws of the components being installed on the chassis be sure to factor in whether the components shall draw a continuous load or intermittent load.

**HEADLIGHTS**

**1.94.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) rectangular halogen headlamps with separate high and low beams in bright bezels shall be provided. The headlamps shall be equipped with "Daytime Running" lamp feature which shall illuminate the headlamps to 80% brilliance when the ignition switch is in the "on" position and the parking brake is released.

**Bid Specification & Information For:  
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**FRONT TURN SIGNALS LIGHTS**

**1.95.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen model 600 amber LED programmable turn signals (arrow style) shall be installed in a separate polished housing above the lower warning lights.

**1.95.1**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Round bullet type side turn signals /marker lights shall be provided on the front cab corners.

**CAB FACE MARKER LAMPS**

**1.96.0**

**Bidder Complies: Yes ( ) No ( )**

Five (5) I.C.C. approved Grote model #45103 Light Emitting Diode (LED) cab marker lamps shall be installed on the face of the cab above the windshield.

**CORNERING LAMPS**

**1.97.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen model 500 or equivalent steady-on cornering lamps with clear lenses shall be provided to illuminate the area adjacent to the front corner of cab when the turn signal switch is activated.

**FRONT WARNING LIGHTS**

**1.98.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series Red Super LED warning lamps shall be installed in the front of the cab. The lights shall be installed inboard of the strobe lights above the headlamps in a chrome housing. Two (2) additional red Whelen model 600 strobes will be provided in the outboard position for a total of four (4) front facing warning lights.

**BUMPER INTERSECTION LIGHTS**

**1.99.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series Red strobe warning lamps shall be installed horizontally (1) each side of the extended bumper ends. The lights shall be installed in a chrome housing.

**CAB INTERSECTION LIGHTS**

**1.100.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series Red Super LED warning lamps shall be installed horizontally (1) each side over the front wheel wells.

**1.100.1**

Two (2) Whelen 900 series Red Super LED warning lamps shall be installed on the raised roof portion of the cab adjacent to the upper scene lights between the front and rear doors.

**ALTERNATING HEAD LAMP WARNING SYSTEM**

**1.101.0**

**Bidder Complies: Yes ( ) No ( )**

An alternating high beam head lamp flashing system shall be installed into the high beam head lamp system that shall allow the high beams to flash alternately from left to right.

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**1.101.1**

**Bidder Complies: Yes ( ) No ( )**

The completed system shall be capable of using high beam to override flashing function and shall flash high beams when low beam head lamps are selected. System shall also de-activate when parking brake is applied.

**BACK UP ALARM**

**1.102.0**

**Bidder Complies: Yes ( ) No ( )**

An Preco-Matic #1059 dual function, dual sound backup alarm shall be installed at the rear of the chassis with an auto-adjusting output level of not less than 87 dB and up to 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

**SCENE LIGHTS**

**1.103.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen #900 series clear halogen scene lights shall be installed on the sides of the cab. The lights shall be surface mounted one (1) each side of the cab. The lights shall be controlled by separate switches one (1) for the left side and one (1) for the right side. Note: Red LED's listed above in 1.100.1 mounted adjacent to these lights.

**EYEBROW LIGHTS**

**1.104.0**

**Bidder Complies: Yes ( ) No ( )**

A Havis-Shields Magnafire 3000 120 volt 650 watt light and fixture shall be installed in the center of the front roof line. The light shall provide 15,200 lumens for forward facing scene lighting.

**GROUND LIGHTING**

**1.105.0**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be equipped with Trucklight brand #40003 or approved equal under cab lighting. The sealed lights shall be located under each cab door. Additional ground lighting as specified in the body section to be provided and wired through this circuit.

**FLAT FLOOR LFD 20" RAISED ROOF 4 DOOR TILT CAB**

**1.106.0**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be a Spartan Chassis, Inc. Flat Floor, LFD (Long Four Door), with 20" raised roof, aluminum tilt cab, capable of seating up to ten (10) firefighters based upon specified seating configuration.

**1.106.1**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be constructed of 5052-H-32 3/16" aluminum "double walled" on the front, 3/16" material on the floor, .125 "double walled" on the sides, with .125" aluminum utilized in all other areas of the cab for exceptional strength. The rear cab wall shall be .090" thick aluminum.

**1.106.2**

**Bidder Complies: Yes ( ) No ( )**

The raised roof shall extend from the back of the cab to the center of the front doors to provide additional headroom for the driver and officer.

**1.106.3**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be of the Eurospace interior design allowing for easy communication inside the cab.

**Bid Specification & Information For:  
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**CAB DIMENSIONS**

**1.107.0**

**Bidder Complies: Yes ( ) No ( )**

The dimensions listed below shall be a minimum approved dimensions and features:

- Cab Width: 96"
- Center of front axle to back of cab: 67.50"
- Center of front axle to front of cab: 76.38"
- Windshield area: 2,890 sq. inches.
- Front grill area: 484.8
- Cab tilt: 45 degree
- Cab full tilt height: 179.5"
- The rear floor to the headliner shall be 75.00".
- The engine tunnel shall be a maximum of 21.00" high x 36.00" wide.
- The back of the tunnel shall be 50.00" from the back wall.
- The inside width shall be 90.00"
- Front floor to headliner height above the driver and officer shall be 78.00".

**ECE -29 CAB CRASH TEST REQUIREMENT**

**1.108.0**

**Bidder Complies: Yes ( ) No ( )**

The proposed cab shall have successfully passed International crash test ECE-29, Addendum 28, revision 1. As part of the ECE regulation 29 test, the frontal area of the cab shall have been struck by a 3,700 lb. Pendulum weight. The weight shall have been brought back to a sixty degree angle and release to allow the with pendulum to swing forward, imparting approximately 32,600 ft. Lb. of force to the cab front face. The cab shall have allowed minimal intrusion into the front of the cab structure and the passenger area. The cab doors shall have remained usable for both entry and exit.

**1.108.1**

**Bidder Complies: Yes ( ) No ( )**

In addition, the cab shall have been subjected to a cab crush test, where the cab shall have withstood a weight over 21,500 pounds without permanent damage or collapse. All test shall have been witnessed by and tested to by an independent third party. The test shall have been recorded on video, high speed imagers, accelerometers and strain gauges. The bidder shall included notarized copies of the test results with their bid proposal, and videos shall be submitted upon request.

**GLADIATOR "CLASSIC" FRONT FASCIA**

**1.109.0**

**Bidder Complies: Yes ( ) No ( )**

The front cab "Classic" fascia shall be constructed of aluminum, which shall attach to the front cab skin and act as a fascia only creating a double wall structure.

**1.109.1**

**Bidder Complies: Yes ( ) No ( )**

The front fascia shall cover the front aluminum cab structure from the bottom of the windshield down to the bottom of the cab. The front cab fascia shall have provisions for four (Hi/Low Beam) headlamps, turn signal lamps and four (4) warning lamps.

**1.109.2**

**Bidder Complies: Yes ( ) No ( )**

The front fascia shall allow access to check and fill the engine oil and wiper washer fluid. Access is also provided for servicing the windshield wiper motor and linkage, ember separator, headlamps, electrical bulkhead connectors, transmission ECU and the multiplex V-Mux control (if equipped).



**Bid Specification & Information For:  
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**"GLADIATOR STYLE" EXTERIOR GRILL TRIM**

**1.110.0**

**Bidder Complies: Yes ( ) No ( )**

A stainless steel front grill 40.00"W x 30.00"H, with a minimum free air intake of 488.8 sq.in. shall be installed on the front cab front. The front grill shall be hinged to allow daily checks of the vital chassis fluids.

**FLAT FLOOR CAB DOORS-BARRIER CLEAR**

**1.111.0**

**Bidder Complies: Yes ( ) No ( )**

The cab doors shall be flush "Barrier Clear" type with hidden .375" stainless steel door hinges. All doors shall be equipped with push button or lever type exterior latches, suitable for use with firefighter mittens, and keyed alike locks that are designed to prevent accidental lockout.

**1.111.1**

**Bidder Complies: Yes ( ) No ( )**

The interior latches shall be flush paddle type, which are incorporated into an upper door panel.

**1.111.2**

**Bidder Complies: Yes ( ) No ( )**

The front doors shall measure 43.00" wide x 65.00" high with .13" thick aluminum skins. The front steps shall be a two (2) step configuration with the lower step constructed of stainless steel open grate material and the intermediate step covered with embossed, NFPA compliant, aluminum tread plate.

**1.111.3**

**Bidder Complies: Yes ( ) No ( )**

The following measurements shall apply:

First step: 11.44" deep x 31.13" wide

Intermediate step: 8.62" deep x 33.00" wide

Ground to first step: approximately 21.00"

First step to intermediate step: 11.00"

Intermediate step to floor: 11.00"

**1.111.4**

**Bidder Complies: Yes ( ) No ( )**

The front doors shall have a full roll down window 27.00" x 26.00" with a total glass area of 702 square inch each.

**1.111.5**

**Bidder Complies: Yes ( ) No ( )**

The rear doors shall measure 34.00" wide x 85.00" high with .13" thick aluminum skins. The rear steps shall be a two (2) step configuration with the lower step constructed of stainless steel open grate material and the intermediate step covered with embossed, NFPA compliant, aluminum tread plate.

**1.111.6**

**Bidder Complies: Yes ( ) No ( )**

The following measurements shall apply:

First step: 12.13" deep x 20.44" wide

Intermediate step: 10.50" deep x 23.00" wide

Ground to first step: approximately 21.00"

First step to intermediate step: 12.50"

Intermediate step to floor: 12.50"

**Bid Specification & Information For:  
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**1.111.7**

**Bidder Complies: Yes ( ) No ( )**

The rear doors shall have a roll down window 27.50" x 26.00" with a total glass area of 715 square inch each.

**DOOR WARNING - CHEVRON**

**1.114.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) Chevron reflective signs shall be installed on the lowest portion of the inner door panels, one (1) on each door. A stripe of reflective tape shall be installed at the outer edge of each door.

**INTERIOR CAB GRAB HANDLES**

**1.115.0**

**Bidder Complies: Yes ( ) No ( )**

A molded rubber 11" grab handle shall be provided on the hinge post inside the cab at both the driver and officer door for entering and exiting the cab.

**FULL WIDTH CREW CAB DOOR ASSIST RAILS**

**1.116.0**

**Bidder Complies: Yes ( ) No ( )**

Black powder coated cast aluminum assist rails shall be provided and installed on the inside of the rear crew doors the full width of the window glass. The rails shall assist personnel in exiting and entering the cab. The rails shall be located at the retracted door window glass level and shall protect the exposed window glass area.

**INTERIOR TRIM**

**1.117.0**

**Bidder Complies: Yes ( ) No ( )**

The cab interior dash trim shall consist of a two-piece ABS driver and officer assembly as provided with standard Spartan interior. The officer area shall have a glovebox and door assembly with recessed MDT cutout provided.

The header trim shall consist of **burgundy colored** three-piece vacuum formed trim package with two (2) vinyl sunvisors.

**INTERIOR TRIM AND FLOOR MAT**

**1.118.0**

**Bidder Complies: Yes ( ) No ( )**

The interior metal surfaces of the cab shall be painted with chassis color gloss red finish.

**1.118.1**

**Bidder Complies: Yes ( ) No ( )**

The pebble grain, non-slip vinyl covered, foam backed, sound deadening, multilayer insulating floor mat shall be black. This floor mat shall be two ply material with 0.25" thick closed cell foam and a 0.06" thick wear surface. Flooring shall be black in color.

**ENGINE COVER**

**1.119.0**

**Bidder Complies: Yes ( ) No ( )**

The fixed type engine cover shall be a maximum of 23.00" high x 41.50" wide and covered with vacuum formed burgundy colored insulated housing. The back of the tunnel shall be approximately 68.00" from the back wall.

**1.119.1**

**Bidder Complies: Yes ( ) No ( )**

The material below the engine cover shall be an integral part of the cab and made of 0.19" thick aluminum. The engine side of this area shall be heavily insulated with multi-layer insulating

**Bid Specification & Information For:  
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materials, consisting of foam, a 1.0 pounds per square feet sound barrier with a facing that resists heat transfer and held in place by adhesive and aluminum stick pins and retention caps.

**1.119.2**

**Bidder Complies: Yes ( ) No ( )**

The cap shall incorporate a latching electrical component access cover to allow complete access to the underside of the switch panel assembly and electrical harness and components.

**DELUXE INSULATION PACKAGE**

**1.120.0**

**Bidder Complies: Yes ( ) No ( )**

Additional insulation in the cab shall be installed to improve air-conditioning and/or heating in extreme weather climates as well as reducing road noise. The sides, roof and rear wall of the cab shall contain 1" thick multilayered insulation.

**MOBILE DATA TERMINAL PROVISION WITH TRAY**

**1.121.0**

**Bidder Complies: Yes ( ) No ( )**

A Mobile Data Terminal (MDT) provision shall be provided on the officer side of the dash. The MDT provision shall be recessed 7.00" below the surface of the dash; the surface area of the MDT provision shall be 13.00" wide x 9.75" long. A 20 amp 12AWG clean power and ground circuit shall be provided to the MDT area.

**1.121.1**

**Bidder Complies: Yes ( ) No ( )**

The slide tray shall provide a mountable surface area of 10.88" wide x 10.63" long. The roll out tray shall allow the MDT to be operated from the officer seat position without obstructing the driver's view of the rear view mirror.

**12 VOLT RECEPTACLE**

**1.122.0**

**Bidder Complies: Yes ( ) No ( )**

A 12 volt cigarette lighter type receptacle shall be provided per the direction of the Purchaser.

**WINDOWS**

**1.123.0**

**Bidder Complies: Yes ( ) No ( )**

All glass used in the cab shall be automotive tint. The windshield shall have a maximum of 2890 sq.in. area and be of the wraparound design 52.88" wide and 27.88" high for maximum visibility. Left and right windshield shall use the same interchangeable glass. The windshield glass shall be readily available for replacement if necessary.

**WINDSHIELD WIPERS**

**1.124.0**

**Bidder Complies: Yes ( ) No ( )**

Intermittent electric wipers with a single motor and electric powered "wet arm" type windshield washers shall be provided. Access to the wiper motor shall be through the driver's side headlamp module located on the front cab fascia.

**SIDE CAB WINDOWS (BETWEEN DOORS)**

**1.125.0**

**Bidder Complies: Yes ( ) No ( )**

Fixed cab side windows, 16.0" x 26.0" (416 square inches) shall be installed behind the front cab doors one each side of the cab. Each window shall be the same height as the windshield to provide maximum visibility.

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**1.125.1**

**Bidder Complies: Yes ( ) No ( )**

All cab windows shall be the same height as the windshield to provide full panoramic visibility

**RADIO/STORAGE BOXES**

**1.126.0**

**Bidder Complies: Yes ( ) No ( )**

The driver and officer seats shall have an 8.25" high x 12.69" wide x 15.13" deep compartment in the seat box beneath them. Each compartment shall have a brushed aluminum hinged door with an opening of 6.00" high x 12.50" wide.

**CAB ENTRY ASSIST HANDLES**

**1.127.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) 18" knurled anti-slip one-piece exterior assist handles shall be installed, one (1) behind each cab door. The assist handle shall be made of 14 gauge 304 stainless steel and be 1.25" diameter to enable easy grabbing with the gloved hand.

**CAB COURTESY INTERIOR LIGHTING**

**1.128.0**

**Bidder Complies: Yes ( ) No ( )**

The cab interior lighting shall consist of the following:

**1.128.1**

**Bidder Complies: Yes ( ) No ( )**

A red/white dome lamp with shall be located over each door. The white lamp shall be activated by its respective door when opened and both activated by an individual switch on the light. One (1) additional red/white light module shall be located in the headliner, over the engine tunnel.

**1.128.2**

**Bidder Complies: Yes ( ) No ( )**

A clear light shall be located in the molded panel of each door and activated when the door is opened. The light shall be 6.5" long x 3" high.

**DOOR AJAR LIGHT**

**1.129.0**

**Bidder Complies: Yes ( ) No ( )**

A Whelen CR12 red rotating light shall be installed in the front headliner of the cab. The light shall be wired to indicate an open door on the cab when the parking brake is released.

**DO NOT MOVE APPARATUS LIGHT WARNING SYSTEM**

**1.130.0**

**Bidder Complies: Yes ( ) No ( )**

A light labeled "Do Not Move Apparatus" shall be installed in the front headliner of the cab. Four (4) location situation/fault indication lights shall be supplied as follows:

- 1- Cab door open
- 2- Left side apparatus door open
- 3- Right side of apparatus door open
- 4- Rear apparatus door open

An additional visual warning system shall be provided to alert operator that light tower is not properly stowed.

The lights shall be wired to activate when the parking brake is released.

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**ENGINE TUNNEL LIGHT**

**1.131.0**

**Bidder Complies: Yes ( ) No ( )**

A Grote model #60181-5 rectangular 1.5" x 2.25" x 1.13" clear work light shall be provided and installed under the engine tunnel.

**MAP LIGHT**

**1.132.0**

**Bidder Complies: Yes ( ) No ( )**

A Sunnex brand goose neck style instrument panel light with switch at base and red filter shall be installed on the right hand side of the dash panel.

**HAND HELD SPOTLIGHT**

**1.133.0**

**Bidder Complies: Yes ( ) No ( )**

A Collins Pulsar 500 hand-held spotlight shall be mounted to the right of center of the engine tunnel. It shall have a coil-cord, a momentary switch and a 500,000 candlepower lamp.

**WEATHER BAND AM/FM RADIO WITH COMPACT DISC PLAYER**

**1.134.0**

**Bidder Complies: Yes ( ) No ( )**

A heavy duty Panasonic Weather Band AM/FM stereo radio with compact disc player and four (4) speakers shall be installed in the cab. The radio shall be installed above the driver. Two (2) speakers shall be installed overhead front with the other two (2) speakers in the upper rear corners of the cab.

**SEAT COVERING**

**1.135.0**

**Bidder Complies: Yes ( ) No ( )**

The seats shall be covered with a high strength, wear resistant Imperial 1200 fabric. A PVC coating is bonded to the back side of the material to help protect the seat cushions from being saturated or contaminated by fluids.

**BURGUNDY SEAT COLOR**

**1.136.0**

**Bidder Complies: Yes ( ) No ( )**

All seats supplied on the chassis shall be RED/BURGUNDY in color.

**DRIVERS SEAT**

**1.137.0**

**Bidder Complies: Yes ( ) No ( )**

The driver's seat shall be a Seats Inc. 911 six-way electric high back seat and shall include a tapered and padded seat cushion and back with mechanical suspension.

**1.137.1**

**Bidder Complies: Yes ( ) No ( )**

The seat shall be an ABTS (All Belts to Seat) type integrated red three-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The female seat belt clasp shall extend up from the seat base ~ 14" to be within easy reach of the occupant. The ABTS feature is an engineering break through where the passenger restraint harness is built into the seat module and meets the twenty "G" load test.

**OFFICER SEAT**

**1.138.0**

**Bidder Complies: Yes ( ) No ( )**

The officer's seat shall be a Seats Inc. 911 six-way electric high back seat and shall include a tapered and padded seat cushion and back with mechanical suspension.

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**1.138.1**

**Bidder Complies: Yes ( ) No ( )**

The seat shall be an ABTS (All Belts to Seat) type integrated red three-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The female seat belt clasp shall extend up from the seat base ~ 14" to be within easy reach of the occupant. The ABTS feature is an engineering break through where the passenger restraint harness is built into the seat module and meets the twenty "G" load test.

**FORWARD FACING FULL WIDTH SEAT BOX**

**1.139.0**

**Bidder Complies: Yes ( ) No ( )**

A full "Cab Width" seat box measuring approximately 88" wide x 12" high x 22" deep shall be installed against the center of the rear wall for seat mounting and rehabilitation purposes. The seat box shall be made from smooth aluminum and welded to the cab structure for seat mounting integrity. The seat box shall be painted the cab interior color.

**1.139.1**

**Bidder Complies: Yes ( )**

**No ( )**

The front of the seat box shall have two (2) hinged doors with latches and openings 18" wide x 8-5/8" high to allow access for storage in the seat box.

**FORWARD FACING FULL BENCH SEAT**

**1.140.0**

**Bidder Complies: Yes ( ) No ( )**

A full "Cab Width" seat measuring approximately 88" wide x 12" high x 22" deep shall be installed against the rear wall of the cab for crew seating and rehabilitation purposes. The seat shall be made from padded heavy duty material matching to other seating surfaces. Both a full padded seat bottom and padded back pad shall be provided to accommodate up to four (4) firefighters.

**1.140.1**

**Bidder Complies: Yes ( ) No ( )**

Full three (3) point seat belts shall be provided for each seating position (4) with matching receptacles on seat base. All belts will be red in color and have maximum length to fit full equipped personnel.

**CAB PASSENGER RESTRAINT TEST**

**1.142.0**

**Bidder Complies: Yes ( ) No ( )**

The cab seat harnesses (passenger restraints) and anchor points shall have been tested. The seat restraints shall survive an independent third party sled test that imparts the equivalent of a twenty "g" force at impact. All restraints and anchor points must remain in good condition, show little or no damage and anchor points must maintain their integrity

**SEATBELT WARNING LABELS**

**1.143.0**

**Bidder Complies: Yes ( ) No ( )**

A permanent plate shall be installed in the driver's compartment specifying the maximum number of personnel the vehicle is designed to carry per NFPA standards. It shall be located in an area visible to the driver.

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**1.143.1**

**Bidder Complies: Yes ( ) No ( )**

An accident prevention sign stating "DANGER", personnel must be seated and seat belts must be fastened while vehicle is in motion, or "DEATH OR SERIOUS INJURY MAY RESULT" shall be provided. It shall be visible from each seating position.

**SEATBELT WARNING SYSTEM**

**1.143.2**

**Bidder Complies: Yes ( ) No ( )**

A seatbelt use warning system shall be installed in the chassis. The system will provide a visual and audible warning when all of the following conditions are met.

- 1.) Any seat is occupied (sixty pounds minimum).
- 2.) The corresponding seat belt(s) remains unfastened.
- 3.) The park brake is released.

Once activated, the visual and audible indicators will remain active until all occupied seats have the seat belts fastened.

**HVAC SYSTEM**

**1.144.0**

**Bidder Complies: Yes ( ) No ( )**

A ceiling mounted HVAC system shall be provided. The system shall consist of an overhead heater/defroster/air-conditioning unit mounted above the engine tunnel in a central location with dash mounted controls.

**1.144.1**

**Bidder Complies: Yes ( ) No ( )**

A roof mounted condenser is located forward of the raised roof against the slope rise, (Note: condenser location is to the side on flat roof cabs and aerial applications). The ceiling mounted HVAC system includes 14 adjustable louvers. Six (6) forward facing louvers for windshield, 45,000 Btu's of heat at 460 cfm for defrosting.

**1.144.2**

**Bidder Complies: Yes ( ) No ( )**

Four (4) rearward facing louvers to direct air for crew comfort and six (6) for driver and officer comfort. In "Cabin Mode" the system is designed to produce 60,000 Btu's of heat and 32,000 Btu's of cooling. The system has an engine mounted Seltec TM-21 compressor and utilize R-134A refrigerant.

**1.144.3**

**Bidder Complies: Yes ( ) No ( )**

The system shall be capable of lowering the cab interior temperature from 100 degrees to 70 degrees within thirty minutes, with a relative humidity of 60 percent.

**1.144.4**

**Bidder Complies: Yes ( ) No ( )**

The A/C lines shall be a mixture of custom bent zinc coated steel fittings and Aeroquip flexible hose with E-Z clip fittings.

**CAB TILT ACTUATION**

**1.145.0**

**Bidder Complies: Yes ( ) No ( )**

The entire cab shall tilt 45 degrees to allow for easy maintenance of the engine and transmission.

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**1.145.1**

**Bidder Complies: Yes ( ) No ( )**

The cab tilt actuation shall be with an electric over hydraulic lift pump with a control box on a pennant for safe visual operation.

**1.145.2**

**Bidder Complies: Yes ( ) No ( )**

The lift system shall have an ignition interlock and red lock down indicator lamp, which shall illuminate when holding "down" switch to indicate safe road operation. It shall be necessary to activate the master battery switch with the park brake set in order to tilt the cab.

**1.145.3**

**Bidder Complies: Yes ( ) No ( )**

Two cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab pivots shall be 1.90" ball and be anchored to frame brackets with 1.25" diameter studs.

**1.145.4**

**Bidder Complies: Yes ( ) No ( )**

Two spring loaded hydraulic hold down hooks outboard of the frame shall be installed for holding the cab securely to the frame.

**1.145.5**

**Bidder Complies: Yes ( ) No ( )**

A steel safety assembly shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety assembly shall fall over the lift cylinder when the cab is in the "up" position. A cable release system shall also be provided to clear the safety assembly from the lift cylinder when lowering the cab.

**RECEPTACLE FOR CAB TILT CONTROL**

**1.146.0**

**Bidder Complies: Yes ( ) No ( )**

A receptacle shall be installed in the right hand side of the front bumper tail to provide a place to plug in the cab tilt remote control pennant.

**MANUAL CAB LIFT PUMP - VERTICAL**

**1.147.0**

**Bidder Complies: Yes ( ) No ( )**

A manual cab tilt pump shall be provided and installed in an easily accessible location, allowing cab to be tilted in the event of an electrical failure or failure of the electric hydraulic pump. The pump shall be located in the pump compartment right side, with appropriate hinged access panel for ease of operation. Pump shall be mounted with consideration to operation with tilt handle attached.

**WHEEL WELL FENDERETTES**

**1.148.0**

**Bidder Complies: Yes ( ) No ( )**

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. The two-piece liners shall consist of an inner liner 16" wide made of ABS plastic and a outer fenderette 3.50" wide made of 14 gauge 304 polished stainless steel.

**REAR VIEW MIRRORS**

**1.149.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) motorized Retraco, West Coast style mirrors shall be installed on the doors of the cab. The upper flat mirror model 1171HL shall be 16" high x 7" wide and shall be remote controlled. The fixed lower convex mirror head model 980-4 shall be 8" in diameter. The mirror heads shall be installed in polished aluminum housings and mounted to the cab on stainless steel bow swing away type arms. The mirrors shall be heated and lighted by amber clearance lights.



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**CAB PAINTING**

**1.150.0**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be painted a single color paint scheme to match the Kirkland fleet. The actual paint code shall be determined at the time of the chassis pre-construction conference.

**1.150.1**

**Bidder Complies: Yes ( ) No ( )**

All cab painting must be completed prior to the installation of glass, accessories or any other cab trim to assure complete paint coverage and maximum corrosion protection.

**1.150.2**

**Bidder Complies: Yes ( ) No ( )**

The entire cab shall be disc ground to remove any surface oxidation or surface debris that may hinder the paint adhesion.

**1.150.3**

**Bidder Complies: Yes ( ) No ( )**

Upon the application of required body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface-paint adhesion. The entire cab then shall be coated with an intermediate surfacer that is designed to fill minor surface defects, provide an adhesive bond between the primer and the paint, and improve the color and gloss retention of the color coats.

**1.150.4**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be finish sanded with 360 grit paper, seams sealed with SEM seal sealer and painted with two (2) to four (4) coats of an acrylic urethane type system designed not only for color retention, but to resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene.

**1.150.5**

**Bidder Complies: Yes ( ) No ( )**

Since excessive chipping is not desired, the maximum overall film thickness shall not exceed 5 mils.

**HAND SAND & BUFF FINISH**

**1.151.0**

**Bidder Complies: Yes ( ) No ( )**

The base coat clear coat finish shall be power sanded and machine finished to achieve a flat finish on all "A" visual surfaces.

**PAINT AND FINISHING WARRANTY**

**1.152.0**

**Bidder Complies: Yes ( ) No ( )**

The paint shall be Dupont Imron or approved equal and shall be warranted for not less than 7 full years against cracking, checking, or peeling and loss of gloss caused by chalking or fading (non-prorated).

**CAB CORROSION TREATMENT**

**1.153.0**

**Bidder Complies: Yes ( ) No ( )**

The cab shall be protected by Z-Tech ZPA-1015 low VOC corrosion preventative. Z-Tech is a blend of rust/corrosion inhibiting petroleum and organometallic complex products dispersed with petroleum solvents to form a protective sealant against the elements. When applied to metal surfaces, a barrier film shall be formed thereby extending the useful life of the treated metal. Z-tech is the exclusive manufacturer of Z-bart coatings.

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**CAB PERFORATION WARRANTY**

**1.154.0**

**Bidder Complies: Yes ( ) No ( )**

Cab underside and doors shall be rustproofed with a 10 year or 100,000 mile warranty certificate against perforation issued to the original Purchaser.

**FIRE EXTINGUISHER**

**1.155.0**

**Bidder Complies: Yes ( ) No ( )**

A 2.5 lb. DOT approved fire extinguisher shall be shipped loose with the completed unit.

**SERVICE MANUALS AND PARTS LISTS**

**1.156.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) complete sets of chassis service manuals and parts lists including "As Built" diagrams for all wiring and air plumbing, and complete transmission and engine service manuals shall be provided.

**ROAD SAFETY KIT**

**1.157.0**

**Bidder Complies: Yes ( ) No ( )**

A road safety kit shall be provided and shall consist of three (3) DOT approved reflective triangles.

**SECTION 2: CAB AND CHASSIS MODIFICATIONS.**

**TOW EYES**

**2.00.0**

**Bidder Complies: Yes ( ) No ( )**

Incorporated into the rear frame rails shall be two (2) recess mounted tow eyes for tie-off points and vehicle recovery, with a 3" minimum diameter. The rear mounted tow eyes shall be located above the rear step allowing for ease of access. The tow eyes shall not protrude outboard of the rear diamond plate panel. No tow hooks shall be installed inside of a compartment, and shall be connected directly to the chassis frame.

**FUEL TANK MODIFICATIONS**

**2.01.0**

**Bidder Complies: Yes ( ) No ( )**

The fuel tank shall be mounted between frame rails, behind rear axle. A fuel filler pipe to be run out to the left side of the apparatus body with a fill body trim casting. Consideration to the angle of fuel filler pipe shall be taken to reduce blow-back.

**2.01.1**

**Bidder Complies: Yes ( ) No ( )**

The portion of the fuel filler that crosses over the frame rail and connects to the fuel fill pipe shall have additional protection to prevent hose from being damaged from flying road particles.

**2.01.2**

**Bidder Complies: Yes ( ) No ( )**

The rear compartment on the apparatus shall have a hinged access plate to allow for access to the center frame rail mounted fuel tank. The access plate shall include a rubber gasket to prevent water or road spray from entering the rear compartment, and shall be fastened with quick release snap type fasteners.

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**MUD FLAPS**

**2.02.0**

**Bidder Complies: Yes ( ) No ( )**

Heavy-duty rear mud flaps shall be provided. Mud flaps shall be sized proportionately to allow for equipment and water weight to avoid dragging

**EXHAUST MODIFICATIONS**

**2.03.0**

**Bidder Complies: Yes ( ) No ( )**

The exhaust system shall be carried to the right side of the unit and exit forward of the rear wheel. Exhaust system shall meet all engine manufacturer's recommendations, and all standards for noise emissions. Exhaust system shall be shielded to protect the compartments and underside of the apparatus from exhaust heat.

**2.03.1**

**Bidder Complies: Yes ( ) No ( )**

A 15' corrosion resistant exhaust extension hose shall be provided and mounted in the apparatus. This shall allow engine exhaust to be routed away from operational areas as needed. Hose must be rust and heat resistant. Note; Adequate storage provision shall be provided within the body to accommodate this hose.

**ELECTRIC POWER FOR WINCH**

**2.04.0**

**Bidder Complies: Yes ( ) No ( )**

Electric power provisions shall be furnished for the portable winch from the chassis battery system. ***See body related winch receptacles.***

**2.04.1**

**Bidder Complies: Yes ( ) No ( )**

The receiver plugs shall be located each side of body at receiver locations.

**2.04.2**

**Bidder Complies: Yes ( ) No ( )**

A total quantity of three (3) receptacles shall be provided, one each side and one at the front bumper area.

**MISCELLANEOUS CAB & CHASSIS MODIFICATIONS**

**2.05.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) license plate bracket with a light shall be mounted on the rear of the apparatus. The light shall turn on with the running lights.

**2.05.1**

**Bidder Complies: Yes ( ) No ( )**

A sign that states the number of personnel the vehicle is designed to carry shall be located in an area visible to the driver.

**2.05.2**

**Bidder Complies: Yes ( ) No ( )**

A sign that states "Height of Vehicle \_\_\_\_ ft \_\_\_\_ in" and loaded weight shall be installed in the cab and visible to the driver per the Revised Code of Washington (RCW).

**2.05.3**

**Bidder Complies: Yes ( ) No ( )**

A warning sign(s) stating "Occupants Must Be Seated And Belted When Apparatus Is In Motion" shall be installed in the cab area where all occupants can see it. The letter height shall be at least 1/4 inches.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**2.05.4**

**Bidder Complies: Yes ( ) No ( )**

One (1) "Final Stage Label" shall be attached to the drivers side door jamb. The label shall certify that the completed vehicle conforms to the federal motor vehicle safety standards, which have been previously fully certified by the incomplete vehicle manufacturer or by the intermediate vehicle manufacturer and has not been affected by the final-stage manufacturer.

**FLUIDS CAPACITY PLATE**

**2.06.0**

**Bidder Complies: Yes ( ) No ( )**

A permanent plate shall be installed in the driver's compartment and shall include the quantity and type of the following fluids:

Engine oil	Engine Coolant
Chassis transmission fluid	Pump primer fluid
Air conditioning refrigerant	Air conditioning lubrication fluid
Power steering fluid	Air compressor system fluid
Pump transmission fluid	Differential and Drive axle lubricant

**STEERING ALIGNMENT**

**2.07.0**

**Bidder Complies: Yes ( ) No ( )**

The steering geometry and alignment shall be rechecked and set as needed by the body builder after the completion of the apparatus, prior to delivery, to ensure accurate Ackerman geometry, to minimize steering error and tire wear during turning and normal road use.

**DRIVELINE BALANCING**

**2.08.0**

**Bidder Complies: Yes ( ) No ( )**

The drive-line shall be dynamically balanced after any modifications at a minimum of 500 RPM. The drive-line shall be certified by the chassis manufacturer and the final stage manufacturer, to be of the appropriate torque rating, and shaft alignment angles.

**DAVID CLARK INTERCOM SYSTEM**

**2.09.0**

**Bidder Complies: Yes ( ) No ( )**

A David Clark four- (4) station intercom system shall be provided and installed. The system shall be designed to allow for the following positions and functions.

- Driver: Radio & Intercom Interface
- Officer: Radio & Intercom Interface
- Crew Cab Seats (2) : Radio & Intercom Interface

**2.09.0**

**Bidder Complies: Yes ( ) No ( )**

The following equipment shall be supplied:

- 1- U3800 Master Station (Located between the Driver & Officer)
- 1- U3805 Radio Input Module
- 4- U 3515 Radio Interface Module (Crew Seats)
- 4- H3342 Headsets

All required cables and connectors shall be provided to install the system correctly.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**RADIO INSTALLATION**

**2.09.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacture shall install up to a total of two- (2) customer supplied mobile radios in the apparatus.

The locations of the radios shall be determined at the pre-construction conference.

**MISCELLANEOUS 12 VOLT RECEPTACLES**

The manufacturer shall install (2) additional 12 volt power receptacles for miscellaneous chargers from the power source to the cab. The Purchaser shall determine the final location of the power leads at the mid-inspection conference.

**SECTION 3: HEAVY RESCUE BODY CONSTRUCTION**

**GENERAL CONSTRUCTION METHODS**

**3.00.0**

**Bidder Complies: Yes ( ) No ( )**

The rescue body shall be an all custom welded design utilizing structural aluminum tubing with heavy- duty vertical and horizontal crossmembers to allow for inset compartmentation.

**BODY DIMENSIONS**

**3.01.0**

**Bidder Complies: Yes ( ) No ( )**

The basic module shall be approximately 216" inches long x 100" wide body. The total storage space available shall be no less than 800 cubic feet.

**HEAVY RESCUE BODY WARRANTY**

**3.02.0**

**Bidder Complies: Yes ( ) No ( )**

The complete apparatus body and substructure shall be warranted for a period of ten (10) years against defects in workmanship, perforation and materials. Full details of manufacturer's warranties shall be provided with the bids.

**BODY SUPPORT SYSTEM/CONSTRUCTION SUB-FRAME**

**3.03.0**

**Bidder Complies: Yes ( ) No ( )**

Due to the severe loading requirements of the rescue unit, a method of body and component support suitable for the intended load shall be provided. The major component of the chassis and of the support system shall be the chassis frame rails which shall be designed for sustaining maximum loads.

**3.03.1**

**Bidder Complies: Yes ( ) No ( )**

An aluminum framework structure shall be mounted on the top of the frame rails and a rubber isolator system shall support the body to create a "floating structure" which shall dampen torsional stresses transmitted to the body. The isolators used for the "floating structure" shall be neoprene elastomer isolators. These isolators shall reduce the natural flex stress of the chassis from being transmitted to the body. The isolators shall have a board load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**3.03.2**

**Bidder Complies: Yes ( ) No ( )**

The main body support cross-member tubing shall be 3" x 2" 6061T6 aluminum alloy, rectangular tubing with a wall thickness of .250". These cross-members shall extend the full width of the module body to support the compartment framing.

**3.03.3**

**Bidder Complies: Yes ( ) No ( )**

The body cross-members shall be mounted on the top of the chassis frame rails, and shall be isolated from the chassis frame rails by dielectric material to reduce electrolysis. A minimum of eight (8) rubber mount pads shall be utilized between the apparatus body structure and the chassis frame rails.

**3.03.4**

**Bidder Complies: Yes ( ) No ( )**

The body subframe shall be built to allow the body to be removed from the chassis frame rails and be remounted on a different chassis. Under no circumstances shall the module or module subframe be welded to the chassis frame rails. The body shall be securely supported and attached to the chassis frame by no less than eight (8) or more rail mounted 5/8 inch grade 8 bolts clamps with high tension springs.

**3.03.5**

**Bidder Complies: Yes ( ) No ( )**

The main body support crossmembers shall have a .250" aluminum plate, gusseted above and below each crossmember. The gussets shall be continuously welded for maximum strength in the body side walls.

**3.03.6**

**Bidder Complies: Yes ( ) No ( )**

An under slung angle grid shall support the bottom of each lower compartment floor. The support shall transfer major stress to the chassis frame and not through the body.

**3.03.7**

**Bidder Complies: Yes ( ) No ( )**

The chassis frame rails shall be cut short behind the rear axle. An under slung compartment support system shall be assembled and bolted to the rear frame rails.

**RESCUE BODY CONSTRUCTION**

**3.04.0**

**Bidder Complies: Yes ( ) No ( )**

The body shall be constructed entirely of Marine Grade Aluminum plate and heavy-duty aluminum tubing.

**3.04.1**

**Bidder Complies: Yes ( ) No ( )**

The body framework shall be formed from beveled aluminum alloy tubing and shall be electronically seam welded both internally and externally at each joint using 5356 aluminum alloy welding wire.

**3.04.2**

**Bidder Complies: Yes ( ) No ( )**

Each vertical corner post and horizontal roof perimeter structures shall be supported by a 3.5" x 9.75" 6063T6 Aluminum alloy tube structure with a minimum wall thickness of .250", and a large 3" radius corner. This vertical support shall be welded as an integral part of the body superstructure.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**3.04.3**

**Bidder Complies: Yes ( ) No ( )**

All horizontal and vertical body crossmember framing shall be constructed 3" x 2" 6061T6 Aluminum tubing with a minimum wall thickness of .250".

**3.04.4**

**Bidder Complies: Yes ( ) No ( )**

The complete rescue body structure shall be all welded construction and shall be free from nuts, bolts, and other fasteners. Upon completion of weldment, the body shall be completely sanded and deburred for the removal of all sharp edges.

**3.04.5**

**Bidder Complies: Yes ( ) No ( )**

All aluminum welding shall be done to American Welding Society and ANSI D1.2-83 requirements for structural welding of aluminum. Flux core arc welding to use alloy rods type 7000 American Welding Society standards A5.20-E70T1.

**3.04.6**

**Bidder Complies: Yes ( ) No ( )**

The body exterior body sides shall be constructed throughout from .125" 5052 H-32 marine grade 11 gauge smooth aluminum plate with a tensile strength of approximately 38,000 psi, and a yield strength of 31,000 psi. The body shall be modular in design, with full double wall side compartment construction.

**3.04.7**

**Bidder Complies: Yes ( ) No ( )**

All primary, load bearing structures shall be welded. All secondary, non load bearing body panels shall be fastened to the primary structure, with the use of a very high bond (VHB) adhesive material.

**3.04.8**

**Bidder Complies: Yes ( ) No ( )**

Body panels that are non load bearing shall be bonded with a VHB adhesive. The use of this type of adhesive shall reduce the possibility of corrosion, warpage, burn-through, and provide sound deadening and increase the torsional strength of the assembly over conventional methods of fastening. All surfaces that require bonding shall be sanded or painted. Installation procedures, approved by the adhesive manufacturer, shall be followed to ensure a good bond.

**3.04.9**

**Bidder Complies: Yes ( ) No ( )**

The squad body exterior front shall be covered with embossed polished aluminum tread plate for appearance, wear, and enhanced visibility. The rear of the body shall be constructed of aluminum plate which shall be painted for a pleasing appearance.

**3.04.10**

**Bidder Complies: Yes ( ) No ( )**

Where body components are attached to the side panels, no voids or gaps shall be permitted. All body lines shall be smooth in appearance and touch, as well as sealed against water intrusion.

**ROOF CONSTRUCTION**

**3.05.0**

**Bidder Complies: Yes ( ) No ( )**

The roof cross members shall be constructed of aluminum 6061-T6 tubing on centers not to exceed 16" inch, and shall include gussetts as necessary for maximum strength. The Aluminum tubing shall have a minimum wall thickness of .250".

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**3.05.1**

**Bidder Complies: Yes ( ) No ( )**

As the roof is utilized for storage of heavy equipment, materials and provides a suitable walking platform, roof structure shall be designed to accommodate not less than a 2000 lbs. static load.

**3.05.2**

**Bidder Complies: Yes ( ) No ( )**

The module roof walking surfaces shall be covered with .125" 5052-H32 marine grade polished embossed aluminum diamond plate overlay, providing an NFPA compliant safe non slip mar resistant surface along the top of the body.

**SECTION 4: RESCUE BODY COMPARTMENT CONSTRUCTION**

**4.00.0**

**Bidder Complies: Yes ( ) No ( )**

All compartment materials and heavy-duty construction methods listed below are the minimum that shall be acceptable for longevity, maintenance and serviceability.

**4.00.1**

**Bidder Complies: Yes ( ) No ( )**

All body compartments shall be constructed from 11 gauge 5052-H32 marine grade aluminum double wall design and shall be made cubical for strength. Body sides shall be of critical flatness, to provide for smooth, wave free body sides. Where body components are attached to the side panels, no voids or gaps shall be permitted. All bodylines shall be smooth in appearance and touch, as well as sealed against water intrusion.

**4.00.2**

**Bidder Complies: Yes ( ) No ( )**

All body compartments shall be attached to the aluminum superstructure in order to maintain a truly modular design.

**4.00.3**

**Bidder Complies: Yes ( ) No ( )**

The module roof, front and rear faces shall form no part of the interior compartment walls or ceiling. Body compartments located side by side shall not share a common interior wall. The construction method shall form a cubicle, for maximum strength and durability. Bolt in or false bulkheads shall not be utilized.

**4.00.4**

**Bidder Complies: Yes ( ) No ( )**

All body compartment floors shall be formed from .125" 5053-H32 Marine grade aluminum plate and reinforced with formed .125" aluminum bracing. The floors shall be welded in place with a continuous weld around the perimeter of each compartment to insure maximum strength and water tightness.

**4.00.5**

**Bidder Complies: Yes ( ) No ( )**

Compartment floors shall be sweep out style with no lips at the bottom edge. Compartment interiors shall be smooth aluminum, with no protrusions.

**4.00.6**

**Bidder Complies: Yes ( ) No ( )**

Protected floor drains shall be provided in all compartments. Floor drains shall run below the frame rails and shall be protected from dust, dirt, and moisture.

**4.00.7**

**Bidder Complies: Yes ( ) No ( )**

The compartment sidewalls shall be constructed of a minimum of 5053-H32 .125" smooth aluminum plate for added strength for compartment shelving.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.00.8**

**Bidder Complies: Yes ( ) No ( )**

The internal compartment tops shall be constructed of a minimum of .125" 5053-H32 aluminum plate.

**4.00.9**

**Bidder Complies: Yes ( ) No ( )**

All compartment seams shall be sealed with permanent pliable silicone caulking.

**4.00.10**

**Bidder Complies: Yes ( ) No ( )**

The inside of all body compartments shall be free of intrusions such as wiring runs, compartment lights and etc. Compartment lights and vents as well as any other hardware shall be flush mounted within the body as possible, to eliminate protrusions into compartment space. All body wiring shall be enclosed within the double wall body to reduce the possibility of equipment damaging wiring looms or snagging.

**4.00.11**

**Bidder Complies: Yes ( ) No ( )**

All accessory mounting screws and bolts which protrude into a compartment shall have acorn nuts at the ends to prevent injury.

**4.00.12**

**Bidder Complies: Yes ( ) No ( )**

Where body components are attached to the side panels, no voids or gaps shall be permitted. All body lines shall be smooth in appearance and touch, as well as sealed against water intrusion.

**4.00.13**

**Bidder Complies: Yes ( ) No ( )**

All vertical corners of the body shall have a full height polished stainless steel or diamond plate overlay wrap installed, protecting the paint on the side of the body.

**ELECTROLYSIS PREVENTION**

**4.01.0**

**Bidder Complies: Yes ( ) No ( )**

All external materials and fasteners shall be chosen to prevent electrolysis and corrosion due to dissimilar materials and exposure to the elements. The following shall be considered a minimum requirements:

- All exterior fasteners shall be stainless steel.
- There shall be a rubber or plastic insulating material under all lighting, exterior hinges, and all exterior compartment and door latches.

**COMPARTMENT VENTS**

**4.02.0**

**Bidder Complies: Yes ( ) No ( )**

All compartment shall be furnished with machine stamped louver vents with a minimum measurement of 4", allowing the double wall body to form a circulating duct work for the body compartments.

**4.02.1**

**Bidder Complies: Yes ( ) No ( )**

There shall be chrome plated marine type air inlets located at the front of the body each side, to utilize outside air for ventilation while apparatus is in motion.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.02.2**

**Bidder Complies: Yes ( ) No ( )**

A power ventilation system shall be provided and installed with a digital timer that shall allow the system to activate when the apparatus is connected to shore power. All components of the ventilation system shall be readily accessible.

**4.02.3**

**Bidder Complies: Yes ( ) No ( )**

Under no circumstances shall the compartment ventilation system intrude into the interior of the compartment, thus reducing the overall amount of usable space for equipment storage. **No Exceptions.**

**COMPARTMENT SILL PROTECTION**

**4.03.0**

**Bidder Complies: Yes ( ) No ( )**

All lower door compartments shall be overlaid with a polished stainless steel lapping over the edge ¾" below the compartment edge to protect paint from chipping while equipment is being accessed.

**COMPARTMENT DRIP RAILS**

**4.04.0**

**Bidder Complies: Yes ( ) No ( )**

Full length polished aluminum or stainless steel moldings shall be installed over all hinged exterior compartment doors. All roll-up doors shall include drip rails integral with the door frame.

**COMPARTMENT LIGHTING**

**4.05.0**

**Bidder Complies: Yes ( ) No ( )**

A minimum of three (3) lights shall be provided in each compartment, one (1) ceiling, and two (2) side wall mounted unless otherwise specified. A minimum of (1) light shall be added (in addition to the 3 listed above) in each compartment per shelf or tray specified.

**4.05.1**

**Bidder Complies: Yes ( ) No ( )**

Lights shall be recessed into the double wall body construction, so as not to protrude into the compartment interiors. Lights shall be 5" sealed in rubber, Truck Lite brand #80351, for ease of replacement and local availability.

**4.05.2**

**Bidder Complies: Yes ( ) No ( )**

Each compartment shall be automatically and individually illuminated when doors are opened with individual automatic switches. Lights shall be wired through the battery switch.

**4.05.3**

**Bidder Complies: Yes ( ) No ( )**

Six (6) additional lights shall be provided in the body compartments per the direction of the Purchaser.

**ROLL-UP COMPARTMENT DOORS**

**4.06.0**

**Bidder Complies: Yes ( ) No ( )**

All exterior roll up style doors on the body shall be ROM brand, Robinson shutter type with 34 mm. anodized aluminum slats with a "Brushed" finish. **No Exceptions.**

**4.06.1**

**Bidder Complies: Yes ( ) No ( )**

All manufacturing and assembly of the door shall be completed in the United States for ease of replacement of parts and service.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.06.2** **Bidder Complies: Yes ( ) No ( )**  
The door face slats shall be constructed with a double wall box frame aluminum extrusion to resist deflection.

**4.06.3** **Bidder Complies: Yes ( ) No ( )**  
The exterior surface of the slats shall be flat.

**4.06.4** **Bidder Complies: Yes ( ) No ( )**  
The interior surfaces of the slats shall be concave to prevent loose equipment from interfering with the door operation.

**4.06.5** **Bidder Complies: Yes ( ) No ( )**  
Every slat shall have interlocking nylon end shoes on every slat, secured by a swag process, to assure operation without constant lubrication and prevent slat movement from side to side. Riveted end shoes shall not be utilized due to the difficulty in repair and replacement if a slat is damaged.

**4.06.6** **Bidder Complies: Yes ( ) No ( )**  
Slat are to have interlocking joints with a folding locking flange.

**4.06.7** **Bidder Complies: Yes ( ) No ( )**  
Between each slat shall be a co-extruded inner-seal to prevent metal-to-metal contact and to inhibit water and dust penetration.

**4.06.8** **Bidder Complies: Yes ( ) No ( )**  
The door track shall be a one piece aluminum with finishing flange and mounting flange to eliminate any gaps between the shutter and body.

**4.06.9** **Bidder Complies: Yes ( ) No ( )**  
Each track shall have a replaceable side seal. The side seal shall inhibit water and dust intrusion into the compartment.

**4.06.10** **Bidder Complies: Yes ( ) No ( )**  
There shall be an aluminum drip rail above each compartment with a non-abrasive seal.

**4.06.11** **Bidder Complies: Yes ( ) No ( )**  
Each roll-up door shall have a counter-balance to assist in lifting and to eliminate the risk of accidental closing.

**4.06.12** **Bidder Complies: Yes ( ) No ( )**  
Each door shall have a full width lift bar, operable by one hand, shall be used as a positive latch device for securing each individual compartment door in the closed position.

**4.06.13** **Bidder Complies: Yes ( ) No ( )**  
A door ajar and compartment light switch shall be designed and installed within the striker block, having no moving parts, and no parts exposed to the outside elements.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.06.14**

**Bidder Complies: Yes ( ) No ( )**

Replacement of parts shall be available and shipped within 48 hours.

**4.06.15**

**Bidder Complies: Yes ( ) No ( )**

The doors shall have a minimum 36 month warranty on equipment and parts.

**ROBINSON "WATER DAM DOOR SEALS**

**4.07.0**

**Bidder Complies: Yes ( ) No ( )**

Each compartment that is equipped with a Robinson rollup door shall have a "Water Dam" sill installed in the bottom of the compartment to reduce water and other liquids from entering the compartments. The door sill shall act as a scuff plate to reduce paint damage from equipment.

**COMPARTMENT FLOORING**

**4.10.0**

**Bidder Complies: Yes ( ) No ( )**

All compartment floors on the apparatus body shall have modular plastic floor matting installed. Matting shall be Turtle Tile brand with beveled edges. The tiles shall be black in color. The tiles shall be provided on all shelves, compartment bottoms, and roll out trays.

**STORAGE RACK FOR SPARE SCBA BOTTLES**

**4.11.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) spare bottle storage rack shall be provided and installed in a compartment to be designated by the Purchaser. The rack shall be constructed of .50" polypropylene plastic or approved equal, with a nylon strap or approved equal retainer over each slot. The slots shall be slanted to retain the bottles when the compartment door is open and to prevent movement. The rack shall be sized to fit a minimum of ten (10) high or low pressure SCBA bottles.

**ADJUSTABLE COMPARTMENT SHELVES**

**4.12.0**

**Bidder Complies: Yes ( ) No ( )**

All compartment shelves shall be fabricated of minimum .125" heavy duty gauge smooth aluminum plate, with formed edges flanged up 2" at 90 degrees around each side and rear, and formed at 45 degree's on the outer face for ease of removing and replacing equipment. All adjustable shelves shall have a natural aluminum finish, painted or treated shelves shall not be allowed due to chipping when equipment is removed.

**4.12.1**

**Bidder Complies: Yes ( ) No ( )**

Shelves proposed shall be installed on heavy duty 1 ½" wide unistrut track for ease of adjustment and secure mounting. Bolts shall be used on unistrut clips to minimize chance of shelf's slipping under a load.

**4.12.2**

**Bidder Complies: Yes ( ) No ( )**

Eight (8) heavy-duty adjustable shelves shall be located as per the direction of the Purchaser. Final dimensions of each shelf will be determined at preconstruction.

**SLIDE-OUT ADJUSTABLE HEIGHT TRAY, FULL DEPTH**

**4.14.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) sliding trays shall be provided. The construction shall consist of 6061-T6 aluminum extrusions for the sides with a .125" thick aluminum floor. The corners shall be welded to form a rigid unit. All trays shall have a natural aluminum finish, painted or treated shelves shall not be allowed due to chipping when equipment is removed.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.14.1**

**Bidder Complies: Yes ( ) No ( )**

The capacity rating shall be 500 pounds minimum in the extended position. The slide assemblies shall be manufactured with 6061-T6 aluminum extrusions. The tray shall be supported by a minimum of eight- (8) roller bearings each rated for a 500 pound load.

**4.14.2**

**Bidder Complies: Yes ( ) No ( )**

An automatic lock shall be provided for both the in and out tray positions. The lock trip mechanism shall be located at the front of the tray and shall be easily operated with a gloved hand. The tray shall slide-out of the compartment, on either side of the vehicle, two thirds of its depth.

**4.14.3**

**Bidder Complies: Yes ( ) No ( )**

Each tray shall be adjustable up and down within the compartment.

**4.14.4**

**Bidder Complies: Yes ( ) No ( )**

Each tray shall have an inside dimension shall be per the direction of the Purchaser.

**4.14.5**

**Bidder Complies: Yes ( ) No ( )**

There shall be a total of four (4) provided as directed by the Purchaser.

**4.14.6**

**Bidder Complies: Yes ( ) No ( )**

All slide out trays that extend past the edge of the compartment body shall have a white 3M Scotchlite stripe applied to the full length each side.

**SLIDE-OUT FLOOR MOUNTED TRAYS**

**4.15.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) sliding tray(s) shall be provided. The construction shall consist of .125" thick or approved equal aluminum formed to provide a 2.00" high wall around the perimeter. The corners shall be welded to form a rigid unit. All trays shall have a natural aluminum finish, painted or treated shelves shall not be allowed due to chipping when equipment is removed.

**4.15.1**

**Bidder Complies: Yes ( ) No ( )**

The capacity rating shall be 500 pounds minimum in the extended position. The slide mechanisms shall have ball bearings for ease of operation and years of dependable service. The slide assemblies shall be manufactured by Slide Master or approved equal.

**4.15.2**

**Bidder Complies: Yes ( ) No ( )**

An automatic lock shall be provided for both the in and out tray positions. The lock trip mechanism shall be located at the front of the tray and shall be easily operated with a gloved hand.

**4.15.3**

**Bidder Complies: Yes ( ) No ( )**

The tray shall be built to fit the size of the floor area where the tray is to be installed.

**4.15.4**

**Bidder Complies: Yes ( ) No ( )**

A total of four (4) shall be provided and installed as directed by the Purchaser.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.15.5**

**Bidder Complies: Yes ( ) No ( )**

All slide out trays that extend past the edge of the compartment body shall have a 1" minimum white 3M Scotchlite stripe applied to the full length each side.

**SLIDE-OUT, TILT DOWN ADJUSTABLE HEIGHT TRAYS**

**4.16.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) slide-out, tilt down trays shall be provided. The construction shall consist of 6061-T6 aluminum extrusions for the sides with a .125" thick or approved equal aluminum floor. The corners shall be welded to form a rigid unit. All trays shall have a natural aluminum finish, painted or treated shelves shall not be allowed due to chipping when equipment is removed.

**4.16.1**

**Bidder Complies: Yes ( ) No ( )**

The capacity rating shall be 200 pounds minimum in the extended position. The slide assemblies shall be manufactured with 6061-T6 aluminum extrusions. The tray shall be supported by a minimum of four (4) roller bearings each rated for a 500 pound load.

**4.16.2**

**Bidder Complies: Yes ( ) No ( )**

Approximately two thirds of the tray shall slide-out from its stored position and shall tip 30 degrees down from horizontal. Each tray shall be adjustable up and down within the compartment.

**4.16.3**

**Bidder Complies: Yes ( ) No ( )**

An automatic lock shall be provided for the in position. The lock trip mechanism shall be located at the front of the tray and shall be easily operated with a gloved hand. Rubber padded stops shall be provided for both the in out tray position.

**4.16.4**

**Bidder Complies: Yes ( ) No ( )**

The trays shall have an inside dimension appropriate to the size of the compartment per the direction of the Purchaser.

**4.16.5**

**Bidder Complies: Yes ( ) No ( )**

There shall be a total of four (4) provided per the direction of the Purchaser.

**4.16.6**

**Bidder Complies: Yes ( ) No ( )**

All slide out trays that extend past the edge of the compartment body shall have a white 3M Scotchlite stripe applied to the full length each side.

**PLYWOOD BULKHEAD DIVIDER**

**4.17.0**

**Bidder Complies: Yes ( ) No ( )**

A fixed aluminum bulkhead divider shall be provided in a compartment for the storage of up to eight-(8) 4' x 8' sheets of plywood. The bulkhead divider shall include nylon strap fasteners with chrome footman loops and heavy-duty nylon speed clips on each end to ensure the boards do not shift when the apparatus is moving.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**COMPARTMENTATION**

**DRIVER'S SIDE (LEFT) COMPARTMENTS**

**COMPARTMENT L-1: LEFT (DS) FORWARD COMPARTMENT**

**4.18.0**

**Bidder Complies: Yes ( ) No ( )**

The L-1 compartment shall be located directly behind the cab. The compartment dimensions shall be approximately 30.00" wide x 62.75" high x 28.00" deep at the floor level. The area over the frame rails shall extend through to the right side of the body (transverse). The compartment clear door opening shall be approximately 30.00" wide x 60.00" high.

**COMPARTMENT L-2: LEFT (DS) INTERMEDIATE COMPARTMENT**

**4.19.0**

**Bidder Complies: Yes ( ) No ( )**

The L-2 compartment shall be located directly behind the L-1 compartment. The compartment dimensions shall be approximately 56.00" wide x 62.75" high x 28.00" deep at the floor level. The area over the frame rails shall extend through to the right side of the body (transverse). The compartment clear door opening shall be approximately 56.00" wide x 60.00" high.

**COMPARTMENT L-3: LEFT (DS) OVER WHEEL COMPARTMENT**

**4.21.0**

**Bidder Complies: Yes ( ) No ( )**

The L-3 compartment shall be located directly above the rear wheels. The compartment dimensions shall be approximately 51.00" wide x 32.00" high. The depth shall extend through to the right side of the body (transverse). The compartment module shall have additional support structure added to provide a total compartment load rating of approximately 2,000 pounds.

**COMPARTMENT L-4: LEFT (DS) REAR COMPARTMENT**

**4.22.0**

**Bidder Complies: Yes ( ) No ( )**

The L-4 compartment shall be located behind the rear wheels. The compartment dimensions shall be approximately 54.00" wide x 62.75" high. The depth shall be approximately 28.00" full height. The compartment clear door opening shall be approximately 54.00" wide x 60.00" high.

**LEFT SIDE (DS) ROOF COMPARTMENTS**

**4.24.0**

**Bidder Complies: Yes ( ) No ( )**

There shall be two (2) equal length enclosed roof compartments provided over the left side of the body. Each compartment shall have an approximate dimension of 80.00" long x 22" deep x 28" wide. The exterior portion of this compartment shall be painted to match the body, and the interior vertical edge (walkway facing) shall be covered with diamond plate.

**4.24.1**

**Bidder Complies: Yes ( ) No ( )**

The roof compartments shall have two (2) diamond plate lift up doors accessed from the top of the body. The compartment doors shall include pneumatic (gas type) hold open struts on each, and (2) snap type latches each. The doors shall be connected to the door-ajar warning system.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.24.2**

**Bidder Complies: Yes ( ) No ( )**

A channel type extrusion shall be installed under the hinge side of each door to prevent water damage to stored equipment. Drain holes shall be provided in the front and rear of this compartment to prevent water pooling. The drains shall include drain hoses that run through the double wall of the body exiting on the ground below the frame.

**4.24.3**

**Bidder Complies: Yes ( ) No ( )**

Each left side roof compartment shall have a minimum of two (2) compartment lights installed, one (1) on each end.

**4.24.4**

**Bidder Complies: Yes ( ) No ( )**

As these doors may be utilized for potential walking surfaces, all diamond plate utilized shall be embossed and meet NFPA 1901 for slip resistance.

**OFFICER'S SIDE (RIGHT) COMPARTMENTS**

**COMPARTMENT R-1: RIGHT (PS) FORWARD COMPARTMENT**

**4.25.0**

**Bidder Complies: Yes ( ) No ( )**

The R-1 compartment shall be located directly behind the cab. The compartment dimensions shall be approximately 30.00" wide x 62.75" high x 28.00" deep at the floor level. The area over the frame rails shall extend through to the right side of the body (transverse). The compartment clear door opening shall be approximately 30.00" wide x 60.00" high.

**COMPARTMENT R-2: RIGHT (PS) INTERMEDIATE COMPARTMENT**

**4.26.0**

**Bidder Complies: Yes ( ) No ( )**

The R-2 compartment shall be located directly behind the R-1 compartment. The compartment dimensions shall be approximately 56.00" wide x 62.75" high x 28.00" deep at the floor level. The area over the frame rails shall extend through to the right side of the body (transverse). The compartment clear door opening shall be approximately 56.00" wide x 60.00" high.

**COMPARTMENT R-3: RIGHT (PS) OVER WHEEL COMPARTMENT**

**4.27.0**

**Bidder Complies: Yes ( ) No ( )**

The R-3 compartment shall be located directly above the rear wheels. The compartment dimensions shall be approximately 51.00" wide x 32.00" high. The depth shall extend through to the right side of the body (transverse). The compartment module shall have additional support structure added to provide a total compartment load rating of approximately 2,000 pounds.

**COMPARTMENT R-4: RIGHT (PS) REAR COMPARTMENT**

**4.29.0**

**Bidder Complies: Yes ( ) No ( )**

The R-4 compartment shall be located behind the rear wheels. The compartment dimensions shall be approximately 54.00" wide x 62.75" high. The depth shall be approximately 28.00" full height. The compartment clear door opening shall be approximately 54.00" wide x 60.00" high.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**RIGHT SIDE ROOF COMPARTMENTS**

**4.31.0**

**Bidder Complies: Yes ( ) No ( )**

There shall be two (2) equal length enclosed roof compartments provided over the left side of the body. Each compartment shall have an approximate dimension of 80.00" long x 22" deep x 28" wide. The exterior portion of this compartment shall be painted to match the body, and the interior vertical edge (walkway facing) shall be covered with diamond plate.

**4.31.1**

**Bidder Complies: Yes ( ) No ( )**

The roof compartment shall have two (2) diamond plate lift up doors accessed from the top of the body. The compartment doors shall include pneumatic (gas type) hold open struts on each, and (2) snap type latches each. The doors shall be connected to the door-ajar warning system.

**4.31.2**

**Bidder Complies: Yes ( ) No ( )**

A channel type extrusion shall be installed under the hinge side of each door to prevent water damage to stored equipment. Drain holes shall be provided in the front and rear of this compartment to prevent water pooling. The drains shall include drain hoses that run through the double wall of the body exiting on the ground below the frame.

**4.31.3**

**Bidder Complies: Yes ( ) No ( )**

Each right side roof compartment shall a minimum of two (2) compartment lights installed, one (1) on each end.

**4.31.4**

**Bidder Complies: Yes ( ) No ( )**

As these doors may be utilized for potential walking surfaces, all diamond plate utilized shall be embossed and meet NFPA 1901 for slip resistance.

**COMPARTMENT T-1: REAR STEP COMPARTMENT**

**4.32.0**

**Bidder Complies: Yes ( ) No ( )**

The T-1 compartment shall be located at the rear of the apparatus. The compartment dimensions shall be approximately 44.00" wide x 62.75" high X 124" long (front to rear). The depth of this compartment shall be determined by the final width of the rear side compartments or approximately 42.00". The compartment clear door opening shall be approximately 44.00" wide x 60.00" high. A roll-up door shall be provided to match the side body compartments.

**COMPARTMENT LOADING**

**4.33.0**

**Bidder Complies: Yes ( ) No ( )**

The compartment listed below shall have an approximate weight rating as follows:

L-1 & R-1: 1000 lbs. per side or 2,000 lbs. total.

L-2 & R-2: 1000 lbs. per side or 2,000 lbs. total.

L-3 & R-3: 1500 lbs. per side or 3,000 lbs. total.

L-4 & R-4: 1000 lbs. per side or 2,000 lbs. total.

T-1: 1500 lb. total.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**INTERIOR COMPARTMENT ACCESS PLATES**

**4.34.0**

**Bidder Complies: Yes ( ) No ( )**

The rear compartment on the apparatus shall have a hinged access plate to allow for access to the center frame rail mounted fuel tank. The access plate shall include a rubber gasket to prevent water or road spray from entering the rear compartment, and shall be fastened with quick release snap type fasteners.

**HANDRAILS**

**4.35.0**

**Bidder Complies: Yes ( ) No ( )**

All body handrails shall be constructed from 1 1/4" polished aluminum with integral serrated rubber strips with chrome plated stanchions. A drain hole shall be provided in the bottom stanchion. Plastic gaskets shall be used between end stanchions and the painted surface.

**4.35.1**

**Bidder Complies: Yes ( ) No ( )**

All escutcheons and brackets shall be aluminum or chrome installed with stainless steel bolts.

**4.35.1**

**Bidder Complies: Yes ( ) No ( )**

Handrails shall be installed in the following areas:

- One (1) 24" height vertical handrail shall be installed on the rear of the apparatus, two (2) total.
- Four (4) handrails shall be installed on the apparatus cab, one adjacent to each door to

**SIDE MOUNTED POWER AWNINGS**

**4.36.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Domestic brand model LA03 or approved equal automatic powered roll-up style awnings made of a fire retardant type material shall be supplied and installed, one (1) each side of the body. The awnings shall be stored in a metal housing on the side of the body when not in use. Final length and other options will be determined by the purchaser at preconstruction.

**4.36.1**

**Bidder Complies: Yes ( ) No ( )**

Operating controls for the awnings will be located as determined by the purchaser at the time of installation for ease of use and safety.

**4.36.2**

**Bidder Complies: Yes ( ) No ( )**

The awnings shall extend out approximately eight (8) feet from the body or as determined at time of order. The color shall be determined at preconstruction and as available.

**EQUIPMENT BOXES**

**4.37.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) heavy-duty equipment boxes measuring approximately 10.00" wide x 22.00" long x 10.00" deep shall be furnished. Each equipment box shall be fabricated from .50" thick polypropylene plastic and shall include a cut out carrying handle on each end.

**4.37.1**

**Bidder Complies: Yes ( ) No ( )**

The tool box shall be held in place with plastic angles secured to the following compartments on a roll-out tray as determined at the pre-construction conference.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**HITCH RECEIVER(S)**

**4.38.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) 2" tube type hitch receivers shall be installed on the apparatus, one at front, one at rear and one each side of the rear wheels through the body. Final locations to be determined at preconstruction.

**4.38.1**

**Bidder Complies: Yes ( ) No ( )**

The hitch receivers shall be constructed of heavy steel tubing and reinforced to the truck framework, for the receiving portion, including a heavy-duty slide-in tube with a ball. The rear hitch receiver shall be a Class III trailer hitch. The class III rating is 5,000 pounds towing and 500 pounds tongue with weight distributing hitch. The receivers shall be capable of retaining a 9,000 pound portable winch.

**4.38.2**

**Bidder Complies: Yes ( ) No ( )**

Slide-in portion shall be held in place by safety pins with clips.

**4.38.3**

**Bidder Complies: Yes ( ) No ( )**

Adequate room shall be provided from all for sides of the receptacle to allow the attachment of rescue devices.

**4.38.4**

**Bidder Complies: Yes ( ) No ( )**

The exterior edges of the recess mounted receptacle shall be trimmed with a polished stainless steel which overlap the painted vertical face of the body side protecting the paint from damage from rescue devices.

**4.38.5**

**Bidder Complies: Yes ( ) No ( )**

A label shall be placed near each receptacle that states the maximum load rating and the maximum rating that the anchor can support.

**4.38.6**

**Bidder Complies: Yes ( ) No ( )**

A seven- (7) prong trailer wiring plug shall be provided at the rear receptacle with a weatherproof snap cover.

**4.38.7**

**Bidder Complies: Yes ( ) No ( )**

Additional 12 Volt receptacles (3) shall be provided at each receiver point to allow power for remote winch or other purchaser options. Final plug and power type to be determined at preconstruction.

**REAR STEP / TAILBOARD**

**4.39.0**

**Bidder Complies: Yes ( ) No ( )**

The 12" tailboard rear step shall be constructed of 12 gauge .125" 6061-T6 embossed aluminum diamond plate aluminum. The outer edge shall be turned down 3" for maximum strength. All diamond plate utilized on walkways and steps shall meet the current NFPA 1901 edition for slip resistance.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.39.1**

**Bidder Complies: Yes ( ) No ( )**

A rear bumper shall be provided that is an integral part of the rear body substructure utilizing a minimum of 2" x 2 x .250" structural tubing. The bumper shall be approximately 12.00" deep x full width. The bumper shall have an embossed diamond plate aluminum overlay installed utilizing double breaks along the side and rear facing edges for maximum strength.

**4.39.2**

**Bidder Complies: Yes ( ) No ( )**

The tailboard shall include a 3.00" radius on each outside corner with cast aluminum corner guards. The treadplate overlay shall include a 1"outset from the rear of the body to enhance water drainage and minimize potential body damage in the event of a collision.

**4.39.3**

**Bidder Complies: Yes ( ) No ( )**

Covering the lower rear portion of the squad shall be a full width piece of .125 embossed diamond plate aluminum, approximately 10" in height for protection to the painted surfaces.

**4.39.4**

**Bidder Complies: Yes ( ) No ( )**

All step surfaces shall be provided with adequate step illumination for night operations.

**ROOF ACCESS LADDER**

**4.40.0**

**Bidder Complies: Yes ( ) No ( )**

A Zico "Quick Ladder" shall be provided on the right rear of the body, allowing access to the upper roof compartments. The ladder shall meet the current NFPA 1901 edition for slip resistance and stepping height..

**RUB RAILS**

**4.41.0**

**Bidder Complies: Yes ( ) No ( )**

An easily replaceable aluminum diamond plate rub rail measuring 2" x 1" x .125" shall be installed full length under the lower side compartment doors. The rub rail shall be formed into a box configuration, creating a crush zone and avoiding metal to metal contact, proprietary extrusions shall not be utilized. Rub rail shall not be attached to the compartment doors. The rub rail shall include sloping ends for a pleasing appearance. The rub rail shall be removable without the need for cutting in case of damage.

**REAR FENDERS**

**4.42.0**

**Bidder Complies: Yes ( ) No ( )**

The rear fenders and wheel well liners shall be constructed entirely of 1/8" aluminum and aluminum extrusions and shall be an integral part of the body and compartment modules. Wheel well liner to be full circular type with ample clearance for tire chains. The inner rear area of fender well shall have a vertical splash guard provided, to minimize wheel spray into inner body areas.

**4.42.1**

**Bidder Complies: Yes ( ) No ( )**

The inner area of the wheel wells shall be heavily undercoated in lieu of painted for durability and corrosion resistance.

**4.42.2**

**Bidder Complies: Yes ( ) No ( )**

Polished stainless steel extruded fenders shall be provided to deflect splash away from body. Fender to have 1-1/4" lip for the full radius of the wheel well cutouts.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**4.42.3**

**Bidder Complies: Yes ( ) No ( )**

Fender extrusions shall be installed utilizing heavy duty threaded "Nut-Serts" in the wheel well area, with stainless steel machine screws used for mounting. A heavy rubber gasket shall be installed between the fender and the body to avert dissimilar metals reaction.

**4.42.4**

**Bidder Complies: Yes ( ) No ( )**

A dielectric barrier shall be provided between the fender crown fasteners and the fender sheet metal to prevent electrolysis and corrosion.

**SECTION 5: ELECTRICAL EQUIPMENT.**

**WIRING-12 VOLT**

**5.00.0**

**Bidder Complies: Yes ( ) No ( )**

All lighting and primary wiring shall run in protective waterproof shrink type loom or conduit rated for high temperature from -30 to 300 degrees F. Wiring shall be shall a high temperature, copper, multi-strand GXL cross link coated wire. All wiring shall run continuously from point to point to avoid splicing. All wiring shall be of proper size for circuits utilized, and shall be capable of 125% of each circuits normal load. No wire splicing shall be utilized

**5.00.1**

**Bidder Complies: Yes ( ) No ( )**

All wiring shall be installed in accordance with NFPA 1901- latest edition. All wiring shall be run through weatherproof type shrink wrap type loom.

**5.00.2**

**Bidder Complies: Yes ( ) No ( )**

All lighting and primary wiring shall be color, number and function coded every three (3) inches, for ease of service.

**5.00.3**

**Bidder Complies: Yes ( ) No ( )**

All connections shall be made with lugs or terminals, mechanically secured to the conductors. All circuits shall be provided with heavy duty re-setting circuit breakers and shall conform to SAE standards.

**5.00.4**

**Bidder Complies: Yes ( ) No ( )**

The apparatus electrical panel shall be recess mounted within the double wall body in the lower portion of the L-1 exterior body compartment. The electrical panel recess shall include a gasketed removable bulkhead cover plate fastened with collapsible blind fasteners with stainless steel machine thread screws for ease of access.

**5.00.5**

**Bidder Complies: Yes ( ) No ( )**

The panel shall utilize an 102 pin weatherproof Duetz connector on the main electrical harness, and weatherproof cannon plugs on auxiliary electrical harnesses (if applicable) allowing the entire panel with mounted components to be removed from the main frame rail and auxiliary electrical harnesses completely utilizing a common screwdriver. This feature shall allow bench testing of the electrical panel "intact" if necessary, and shall allow the complete body to be removed easily from the chassis frame rails and remounted on a new chassis if necessary without disturbing the wiring within the body.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**5.00.6**

**Bidder Complies: Yes ( ) No ( )**

All circuits shall have amperage load carried by constant duty relays and not through switches.

**5.00.7**

**Bidder Complies: Yes ( ) No ( )**

All terminal plugs, connections, and light sockets shall have a corrosion prevention applied to all terminal outside the cab, or body. All connections shall be waterproof type connections in order to prevent corrosion and for ease of separation.

**5.00.8**

**Bidder Complies: Yes ( ) No ( )**

All electrical components that are to be installed in exterior exposed areas shall be mounted in a manner to avoid the accumulation of moisture in it.

**5.00.9**

**Bidder Complies: Yes ( ) No ( )**

All electrical components that are designed to be removed for service and maintenance shall be mounted with stainless steel screws, and shall have a wire loop provided allowing the component to be pulled away from it's mount and serviced.

**MISCELLANEOUS ELECTRICAL CRITERIA**

**5.01.0**

**Bidder Complies: Yes ( ) No ( )**

All electrical components that are permanently attached to the electrical system shall be subjected to operational test to ensure that all connections are properly made.

**5.01.1**

**Bidder Complies: Yes ( ) No ( )**

Electrical cord or conduit shall not be attached to the chassis suspension, components, water or fuel lines, air or air brake lines, hydraulic lines, exhaust system components, or low voltage wiring.

**5.01.2**

**Bidder Complies: Yes ( ) No ( )**

Wiring conduit shall be separated by a minimum of 12", and properly shielded from the chassis exhaust.

**5.01.3**

**Bidder Complies: Yes ( ) No ( )**

Electrical cord or conduit shall be supported within 6" of any junction box and a minimum of every 24" of continuous run. Supports shall be made of non-metallic materials or corrosion protected metal. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.

**NFPA 1901-2003 Edition Low Voltage Electrical Systems Test:**

**5.02.0**

**Bidder Complies: Yes ( ) No ( )**

Certification to show compliance with the following NFPA test requirements shall be provided upon delivery. List of tests: Minimum electrical load consists of the total amperage required to simultaneously operate the following in a stationary mode at the scene.

- A. The propulsion engine and transmission
- B. All clearance and marker lights
- C. The communication radio-a default of 5.0 amps is used
- D. Illumination of all walking surfaces, the ground at all egress points, controls and instrument panels and 50% of the total compartment lighting load.
- E. Minimum warning lights required for "Blocking Right of Way" mode.

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- F. The current to simultaneously operate any fire pump, aerial device & hydraulic pumps.
- G. Anything defined by the purchaser to be critical to the mission of the apparatus.

**5.02.1**

**Bidder Complies: Yes ( ) No ( )**

**Test 1: Reserve Capacity Test.** All the above are operating with the engine shut off. After 10 minutes all electrical loads are shut off and the battery system has to have enough reserve power to start the engine.

**5.02.2**

**Bidder Complies: Yes ( ) No ( )**

**Test 2: Alternator Performance Test at Idle.** All the above are operating with the engine at an idle. There can be no current draw from the batteries of the apparatus.

**5.02.3**

**Bidder Complies: Yes ( ) No ( )**

**Test 3: Alternator Performance Test at Full Load.** All electrical loads shall be activated with the engine running up to the governed rpm for 2 hours. During the test the system voltage can not drop below 11.7 volts or have excessive battery discharge for more than 120 seconds. Any loads not required above in the minimum electrical load can be load managed to pass the test.

**5.02.4**

**Bidder Complies: Yes ( ) No ( )**

All of the tests are done with the engine compartment at approximately 200 degrees.

**SECTION 6: NFPA EMERGENCY WARNING PACKAGE.**

**6.00.0**

**Bidder Complies: Yes ( ) No ( )**

The following warning light system shall be routed through a Class 1 Total System Manager/Sequencer, to sequentially activate and deactivate the lighting system, to minimize shock loading to the electrical system. Load manager shall be set per the Purchaser's instructions, to shed loads as necessary to maintain proper voltage on the truck electrical system.

**WARNING LIGHTS-NFPA 1901-LATEST EDITION**

**6.01.0**

**Bidder Complies: Yes ( ) No ( )**

All lighting and warning systems/devices shall meet the requirements of NFPA 1901, latest adopted edition at the time of order. The system shall include "Blocking the right away" and "Calling for right of way " modes for the warning lights. The lighting package specified below shall meet or exceed NFPA 1901 latest edition.

**CAB MOUNTED LIGHTBAR**

**6.02.0**

**Bidder Complies: Yes ( ) No ( )**

A Whelen model #9310 compliant full width (88 inch) lightbar shall be supplied and permanently mounted on the cab roof. The lightbar shall be mounted perpendicular to the chassis centerline for NFPA compliance. Each side of the lightbar shall be mounted as far forward and as far to the cab side as possible. All fixtures mounted to the roof of the cab shall be properly sealed against water intrusion.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**6.02.1**

**Bidder Complies: Yes ( ) No ( )**

The light bar shall include the following flashing modules:

Eight (8) red forward facing modules, four (4) strobe & four (4) LED

Two (2) clear forward facing strobe modules.

Two (2) red front corner facing strobe modules.

One (1) 3M brand Opticom traffic light controller integral with the lightbar. Note: Opticom to shut off with park brake circuit and have separate switch on the control panel.

**6.02.2**

**Bidder Complies: Yes ( ) No ( )**

Lightbar to be controlled through a Unitrol 480K system controller and programmed with response codes at the direction of the purchaser. Unitrol shall be provided and installed by the manufacturer.

**REAR "C" ZONE LIGHTING.**

**6.04.0**

**Bidder Complies: Yes ( ) No ( )**

Lighting for mid-upper zone C: Two (2) Whelen 600 series 6" x 4" Red strobe warning lights shall be installed in the upper portion rear. Lights shall include a bright chrome bezel.

**6.04.1**

**Bidder Complies: Yes ( ) No ( )**

Lighting for lower zone C: Two (2) Whelen 600 series 6" x 4" amber strobe warning lights shall be installed in the mid-lower portion rear. Lights shall include a bright chrome bezel.

**FRONT LOWER "A" ZONE LIGHTING**

**6.05.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series red super LED warning lamps shall be installed in the front of the cab. The lights shall be installed inboard of the outer model 600 red strobes above the headlamps in a chrome housing (see chassis section). There shall be four (4) total warning lights front, two red LED, two red strobes.

**LOWER SIDE "B & D" ZONE LIGHTING-BUMPER INTERSECTION LIGHTS**

**6.06.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series red strobe warning lamps shall be installed horizontally (1) each side of the extended bumper ends. The lights shall be installed in a chrome housing.

**LOWER SIDE "B & D" ZONE LIGHTING CAB INTERSECTION LIGHTS**

**6.07.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series red super LED warning lamps shall be installed horizontally, one (1) each side over the front wheel wells. The lights shall be installed in a chrome housing.

**LOWER SIDE "B & D" ZONE LIGHTING-REAR WHEEL WELL**

**6.08.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 series Red super LED warning lamps shall be installed horizontally, one (1) each side over the rear wheel wells. The lights shall be installed in a chrome housing.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**UPPER SIDE "B & D" ZONE LIGHTING BODY & CAB**

**6.09.0**

**Bidder Complies: Yes ( ) No ( )**

Lighting for upper zone B&D: Two (2) Whelen Super-900 series 9" x 7" Red LED flashing warning lights shall be installed in the upper portion of the body mounted above the side awnings, one (1) each corner, two (2) per side, four (4) total. Lights shall include a bright chrome bezel. Two (2) additional 900 red LED flashing warning lights shall be installed on the side of the cab, one each side, located on the raised roof portion between the front and rear doors.

**ALTERNATING HIGH BEAM FLASHERS**

**6.10.0**

**Bidder Complies: Yes ( ) No ( )**

An alternating high beam head lamp flashing system shall be installed into the high beam head lamp system that shall allow the high beams to flash alternately from left to right. The completed system shall be capable of using high beam to override flashing function and shall flash high beams when low beam head lamps are selected. System shall also be de-activated when parking brake is applied. Provided by Spartan).

**SECTION 7: APPARATUS AUXILIARY LIGHTING.**

**TAIL LIGHT ASSEMBLY**

**7.00.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 Series LED (maximum population) stop/tail lights shall be installed on the rear compartment face.

**7.00.1**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 600 Series LED (maximum population) amber arrow turn indicators lights shall be installed on the rear compartment face.

**7.00.2**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen Series 600 clear halogen clear back up lights shall be installed on the rear compartment face, one (1) each side. Note: Two (2) additional model 600 halogen lights shall be provided and mounted mid body on the rear face, to act as additional backup lights and scene lights (switched with reverse and at rear).

**7.00.3**

**Bidder Complies: Yes ( ) No ( )**

All above lights shall be installed in a cast aluminum bright polished (3) light bezels.

**DOT/ICC WARNING LIGHTS**

**7.01.0**

**Bidder Complies: Yes ( ) No ( )**

All body builder added ICC lighting: Marker lights, clearance lights, license plate bracket and light, etc. shall be Trucklite brand LED lights, and shall meet applicable standards per FMVSS 108 requirements.

**7.01.2**

**Bidder Complies: Yes ( ) No ( )**

The three (3) identification lights located at the rear shall be installed per the following:

- Truck-Lite, Model 35, LED as close as practical to the vertical centerline.
- Centers spaced not less than six (6) inches or more than twelve (12) inches apart.
- Red in color. All lights shall be at the same height.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**7.01.3**

**Bidder Complies: Yes ( ) No ( )**

The five (5) clearance lights located at the rear shall be installed per the following: Truck-Lite, Model 35, LED To indicate the overall width of the vehicle.

- One (1) each side of the vertical centerline.
- All at the same height.
- As near the top as practical.
- To be visible from the rear and the side.
- One (1) each side, facing the side.
- One (1) each side, facing the rear.

**MID BODY TURN INDICATORS**

**7.02.0**

**Bidder Complies: Yes ( ) No ( )**

A round bullet shaped clearance light with an Amber colored lens (matching the cab) shall be installed on both the right and left sides of the apparatus. The lights shall be installed either above or ahead of the front and rear wheel wells. These lights shall be wired to flash, when the appropriate turn signal is applied and also act as marker lights with running lights on.

**PERIMETER UNDER CAB SCENE LIGHTS**

**7.03.0**

**Bidder Complies: Yes ( ) No ( )**

There shall be a Trucklite brand grommet mount weatherproof light provided for each cab door mounted on aluminum angled bracket, four (4) total. Lighting shall be designed to provide illumination on areas under the driver, officer, and crew cab riding area exits, which shall be activated automatically when the exit doors are opened and by the same means as the body perimeter lights.

**7.03.1**

**Bidder Complies: Yes ( ) No ( )**

The lights under the cab steps shall activate any time the door is opened, and actuated through the chassis park brake. In addition, all lights shall be switched at the center console in the cab.

**PERIMETER UNDERBODY SCENE LIGHTS. BODY**

**7.04.0**

**Bidder Complies: Yes ( ) No ( )**

There shall be six (6) additional Trucklight brand grommet mount weatherproof lights mounted on aluminum angled brackets as listed below. The perimeter scene lights shall be activated by the parking brake and as noted above.

- One (1) each side under the R-2 and L-2 compartments (2) total.
- One (1) each side under the R-4 and L-4 compartments (2) total.
- Two (2) under the rear tailboard, one (1) each corner.
- One (1) under the front bumper.

**7.04.1**

**Bidder Complies: Yes ( ) No ( )**

The lights under the cab steps shall activate any time the door is opened, and actuated through the chassis park brake. In addition, all lights shall be switched at the center console in the cab.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**MISCELLANEOUS COURTESY LIGHTS**

**7.05.0**

**Bidder Complies: Yes ( ) No ( )**

Courtesy step lights shall be provided at all step areas, to include the tailboard, and each door step area, actuated with the parking brake.

**ENGINE COMPARTMENT LIGHT**

**7.06.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) Engine light shall be provided in the engine compartment to illuminate the area for service (provided by Spartan).

**12 VOLT SIDE SCENE LIGHTS**

**7.07.0**

**Bidder Complies: Yes ( ) No ( )**

Four (4) Whelen 900 series or approved equal 9"x 7" 50 watt clear halogen 12 volt scene lights with 8-32 degree optics shall be installed one (1) each side at the upper forward side portion of the body (two total), and one (1) each side of the upper rear side portion of the body (two total). Lights shall include a bright chrome bezel. These lights are in addition to the earlier specified scene lights mounted on the cab. Note: In addition to those specified on the cab, providing a total of three (3) each side. Lights shall be mounted below the awnings, or as approved by the purchaser during construction.

**7.07.1**

**Bidder Complies: Yes ( ) No ( )**

These lights shall be controlled both in the cab and through a weatherproof switch mounted at the rear of the apparatus.

**7.07.2**

**Bidder Complies: Yes ( ) No ( )**

The rear body light switches shall be located on the left rear of the body in a cast aluminum housing with a gasketed hinged door for physical and environmental protection and shall adjacent to the rear hosebed light switches.

**12 VOLT REAR SCENE LIGHTS**

**7.08.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Whelen 900 series or approved equal 9"x 7" 50 watt clear halogen 12 volt scene lights with 8-32 degree optics shall be installed one (1) each side at the upper rear of the body (two total). Lights shall include a bright chrome bezel.

**7.08.1**

**Bidder Complies: Yes ( ) No ( )**

These lights shall be controlled both in the cab, through the reverse circuit, and through a weatherproof switch mounted at the rear of the apparatus. The rear body light switches shall be located on the left rear of the body in a cast aluminum housing with a gasketed hinged door for physical and environmental protection and shall adjacent to the rear hosebed light switches.

**TRAFFIC ADVISOR WARNING LIGHTS**

**7.08.1**

**Bidder Complies: Yes ( ) No ( )**

One (1) Whelen #TAM85 LED traffic advisor shall be provided, recess or surface mounted at the rear of rear of the apparatus. The traffic advisor shall have a minimum of (8) LED lights heads with six (6) super LED bulbs each (48 total), with control head located in a convenient location in the cab.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**SECTION 8: GENERATOR PROVISION, & 120/240 ACCESSORIES.**

**ONBOARD GENERATOR**

**8.00.0**

**Bidder Complies: Yes ( ) No ( )**

An Onan or approved equal PTO Driven Generator shall be provided and installed on the apparatus by the manufacturer. The generator shall be rated at not less than 15,000 watts, 120/240VAC, 60Hz. The generator shall be located underneath the apparatus and shall be mounted with due regard to ground clearance and service access.

**8.00.1**

**Bidder Complies: Yes ( ) No ( )**

The system shall be designed and assembled by a company with no less than 10 years experience in the manufacture of PTO driven generators. The system shall be tested at the full nameplate load prior to shipping and shall be accompanied with the test report. The test report shall document the generator's performance at various loads from no load to full load to ensure reliable power delivery at those loads.

**8.00.2**

**Bidder Complies: Yes ( ) No ( )**

The motor/generator shall be placed in a frame which affords protection to the components and provides a unitized mounting module containing the motor/generator system and components. The generator shall be a continuous duty, industrial type.

**8.00.3**

**Bidder Complies: Yes ( ) No ( )**

The system shall be capable of producing the full nameplate power when driven from the vehicle PTO from idle to maximum engine speed.

**8.00.4**

**Bidder Complies: Yes ( ) No ( )**

Unit shall be capable of operating at a full load without need to remove access panels or create additional cooling.

**8.00.5**

**Bidder Complies: Yes ( ) No ( )**

When properly installed, the system shall be warranted for a period of not less than two (2) years or 2000 hours, whichever should come first.

**8.00.7**

**Bidder Complies: Yes ( ) No ( )**

An Underwriter's laboratories certified load test of the 120/240 Volt generator system shall be conducted.

**8.00.8**

**Bidder Complies: Yes ( ) No ( )**

A full electrical load shall be applied to the generator and shall be operated for a minimum of 60 minutes without a loss of power or overheating.

**POWER TAKE OFF**

**8.01.0**

**Bidder Complies: Yes ( ) No ( )**

A "Constant Mesh" PTO unit shall be provided and installed. A switch to control the operation of the PTO shall be installed in the cab in a location convenient to the driver and officer.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**GENERATOR DISPLAY**

**8.02.0**

**Bidder Complies: Yes ( ) No ( )**

There shall be an Onan Fire or approved equal control panel and display provided for the generator as required by NFPA 1901, 2003 edition. The system shall automatically sense a generator signal and begin displaying information.

**GFI LOAD CENTER**

**8.03.0**

**Bidder Complies: Yes ( ) No ( )**

The entire 110/220 volt electrical system shall be installed in strict compliance with NFPA Pamphlet 1901, latest edition. This shall include all testing, labeling, wiring methodology, and dimensional requirements. Certification of compliance shall accompany the apparatus at the time of delivery.

**8.03.1**

**Bidder Complies: Yes ( ) No ( )**

All line voltage conductors located in the main panel board shall be individually and permanently identified. The identification shall reference the wiring schematic or indicate the final termination point. When pre-wiring for future power sources or devices, the un-terminated ends shall be labeled showing functions and wire size.

**8.03.2**

**Bidder Complies: Yes ( ) No ( )**

The generator shall be hard wired to the circuit breaker panel.

**8.03.3**

**Bidder Complies: Yes ( ) No ( )**

The circuit breaker panel shall be mounted so as to not interfere with shelves or trays, if specified. The load center panel cover shall be accessible without the use of hand tools.

**8.03.4**

**Bidder Complies: Yes ( ) No ( )**

The load center panel mounting location shall be in a compartment, per the direction of the Purchaser.

**8.03.5**

**Bidder Complies: Yes ( ) No ( )**

All 110/220 volt AC wiring shall be provided and installed in accordance with NFPA Pamphlet 1901, as well as nationally accepted electrical codes.

**GFI LOAD CENTER**

**8.03.6**

**Bidder Complies: Yes ( ) No ( )**

An automatic Transfer switching system shall be provided and installed in accordance with electrical standards. System shall power complete 110 system from shore power to facilitate charging and operating in house equipment. System shall automatically transfer from "Shore" power to PTO generator system when system is activated or unplugged from shore.

**BRANCH CIRCUIT OVER-CURRENT PROTECTION**

**8.04.0**

**Bidder Complies: Yes ( ) No ( )**

Over-current protection devices shall be provided for circuits in accordance with NFPA 1901 newest version. The load center shall be equipped with a non-GFI two pole main breaker when the six or more individual branch circuits are present.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**8.04.1**

**Bidder Complies: Yes ( ) No ( )**

Over-current protection devices shall be marked with labels to identify the function of the circuit they protect.

**ELECTRICAL TEST CRITERIA**

**8.05.0**

**Bidder Complies: Yes ( ) No ( )**

All 110/220 volt electrical systems shall be tested and U.L. certified as follows: Wiring and associated receptacles shall be tested for 1 minute, 900 volt dielectric voltage withstand test with any switches in the circuit(s) closed between live parts, including neutral and the vehicle frame. This test shall be conducted after all body work has been completed.

**8.05.1**

**Bidder Complies: Yes ( ) No ( )**

Electrical polarity verification shall be made of all permanently wired equipment and receptacles in order to determine that connections have been properly made.

**8.05.2**

**Bidder Complies: Yes ( ) No ( )**

The bodybuilder shall perform the following operational test and shall certify that the power source and any devices that are attached to the line voltage electrical systems are properly connected and in working order.

**8.05.3**

**Bidder Complies: Yes ( ) No ( )**

The prime mover shall be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.

**8.05.4**

**Bidder Complies: Yes ( ) No ( )**

The following information shall be recorded:

- (1) The cranking time until the prime mover starts and runs, if applicable
- (2) The voltage, frequency, and amperes at continuous full rated load
- (3) The prime mover oil pressure, water temperature, transmission temperature, hydraulic temperature, and the battery charge rate, as applicable
- (4) The ambient temperature and altitude

**8.05.5**

**Bidder Complies: Yes ( ) No ( )**

The power source shall be operated by the apparatus manufacturer at 100 percent of the systems continuous rated wattage as specified on the Power Source Specification Label for a minimum of 2 hours. Testing with a resistive load bank shall be permitted. The conditions specified in NFPA 1901, 2003 edition, #23.16.5.3.3 and shall be recorded at least every 1/2 hour during the test.

**8.05.6**

**Bidder Complies: Yes ( ) No ( )**

Where the line voltage power is derived from the vehicles low-voltage system, the minimum continuous electrical load as defined in NFPA 1901, 2003 edition, #13.14 shall be applied to the low-voltage electrical system during the operational test. Any termination of line voltage power by the low-voltage load management system shall be noted, and the duration of the periods of line voltage power source shutdown shall be recorded.

**8.05.7**

**Bidder Complies: Yes ( ) No ( )**

Vehicle support systems that are required to maintain the power source in operation shall remain within their required operational parameters.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**8.05.8**

**Bidder Complies: Yes ( ) No ( )**

The results of the tests listed in this section shall be supplied to the purchaser at the time of delivery.

**EXTERIOR ELECTRIC OUTLETS**

**8.06.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) 110 volt 20 amp twist lock type (NEMA L5-20R) weatherproof outlets shall be provided (1) at the rear of the body. All outlets shall be connected to the breaker box.

**8.06.1**

**Bidder Complies: Yes ( ) No ( )**

All receptacles shall be marked with the type of line voltage (120-volts or 240 volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they shall be marked appropriately.

**INTERIOR CAB OUTLETS**

**8.07.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) 110 volt six (6) outlet strip shall be provided in the cab per the direction of the Purchaser to charge miscellaneous equipment. The outlet shall be connected to the 120 volt shorepower inlet.

**8.07.1**

**Bidder Complies: Yes ( ) No ( )**

All receptacles shall be marked with the type of line voltage (120-volts or 240 volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they shall be marked appropriately.

**INTERIOR COMPARTMENT OUTLETS**

**8.08.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) 110 volt six (6) outlet strip shall be provided in a body compartment per the direction of the Purchaser to charge miscellaneous power equipment. The outlet shall be connected to the 120 volt shorepower inlet.

**8.08.1**

**Bidder Complies: Yes ( ) No ( )**

All receptacles shall be marked with the type of line voltage (120-volts or 240 volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they shall be marked appropriately.

**ELECTRIC CORD REEL(S)**

**8.09.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) Hannay ECR1616-17-18 electric rewind live cord reel shall be provided and mounted as directed by the Purchaser at the pre-construction conference. The reel shall be designed to accommodate not less than 200' of 10/3 cable. It is preferred that the reels be located in the rear upper body dunnage area with the cords paying out the rear of the body with "Caddy's" for storage of the outlet boxes.

**8.09.1**

**Bidder Complies: Yes ( ) No ( )**

The cord reel shall include the following features:

- Side disc construction with rolled edges and concentric reinforcing ribs.
- Bearings shall support the axle at each end of the reel to provide smooth rotation and eliminate weight on the swivel joint.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

- The reel axle shall extend the full length of the wheel.

**8.09.2**

**Bidder Complies: Yes ( ) No ( )**

The cord reel shall be equipped with a 12 volt DC electric rewind motor with a model #SDLM-40 circuit breaker, and shall be operated with a sealed push-button momentary switch control located on the compartment adjacent to the reel. The switch shall be easily accessed from the ground not to exceed 72" from the ground.

**8.09.3**

**Bidder Complies: Yes ( ) No ( )**

A metallic or polycarbonate reel tag with either raised or engraved letters reading "CORD REEL REWIND" shall be installed next to the rewind button and shall contain the following information;

- Current Rating
- Current Type
- Phase
- Voltage
- Total length of cable.

**8.09.4**

**Bidder Complies: Yes ( ) No ( )**

The reel shall be equipped with a Hannay model #EH-678 bottom-wind assembly "C" captive roller to guide the cord on and off the reel. An HS-3 cord stop ball shall be provided to prevent the end of the cord from being wound on to the reel.

**8.09.5**

**Bidder Complies: Yes ( ) No ( )**

The above listed reel shall each be equipped with 200' of 10/3 SO yellow safety cord. A single NEMA L5-20R receptacle shall be wired to the end of the cord or as instructed by the Purchaser.

**8.09.6**

**Bidder Complies: Yes ( ) No ( )**

The cord reel shall be wired to the circuit panel with 10/3 DLOC wire routed in weather resistant conduit, and shall have a separate 20 amp GFCI breaker.

**8.09.7**

**Bidder Complies: Yes ( ) No ( )**

The power rewind cable spool area shall be visible to the operator during rewind operation.

**REMOTE POWER DISTRIBUTION BOXES**

**8.10.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) Akron Model EJB-PP remote power junction box or approved equal shall be provided with a "Safety Yellow" powder coated finish. A large handle shall be provided on top of the box that permits handling with gloved hands.

**8.10.1**

**Bidder Complies: Yes ( ) No ( )**

The box shall have a total of three (3) L5-20R, 120 VAC twist-lock outlets and one (1) 5-15 straight blade receptacle, or as directed by the Purchaser. Each receptacle shall have a spring loaded flip-up snap covers. All electrical receptacles shall utilize U.L. listed components.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**8.10.2**

**Bidder Complies: Yes ( ) No ( )**

A NEMA L5-20P male plug shall be recessed into the end of the cast aluminum power distribution box so that an extension cord with NEMA L5-20R female receptacle can be plugged in to supply power to the four (4) receptacles.

**8.10.4**

**Bidder Complies: Yes ( ) No ( )**

An aluminum mounting bracket shall be attached to the wall next to the reel. It shall permit the power distribution box to be stored near the reel with the cord attached.

**ELECTRICAL OUTLETS MOUNTING CRITERIA**

**8.11.0**

**Bidder Complies: Yes ( ) No ( )**

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, shall be of the grounding type provided with a wet location cover and installed in accordance with section 210-7 "Receptacles and Cord Connections of the NEC.

**8.11.1**

**Bidder Complies: Yes ( ) No ( )**

All receptacles located in a wet location shall be not less than 24" from the ground.

**8.11.2**

**Bidder Complies: Yes ( ) No ( )**

The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle shall be installed in a horizontal face up position.

**8.11.3**

**Bidder Complies: Yes ( ) No ( )**

All receptacles located in a dry location shall be of the grounding type. Receptacles shall be not less than 30 inches above the interior floor height.

**8.11.4**

**Bidder Complies: Yes ( ) No ( )**

All receptacles and electrical inlets shall be UL 498, "Standard for Safety Attachment Plugs and Receptacles". Receptacles used for direct current voltages shall be rated for the appropriate service.

**ELECTRICAL STANDARDS FOR 120/240 VAC SYSTEMS:**

**8.12.0**

**Bidder Complies: Yes ( ) No ( )**

The following standards shall be adhered to for all 110/220 VAC systems.

**8.12.1**

**Bidder Complies: Yes ( ) No ( )**

All 110/220 wiring shall be protected in an automotive loom. Wiring looms shall not be open or visible in the body compartments due to potential damage when accessing equipment.

**8.12.2**

**Bidder Complies: Yes ( ) No ( )**

Any fixed line voltage power source producing alternating current (AC) line voltage shall produce electrical power at 60 cycles plus or minus 5 cycles.

**8.12.3**

**Bidder Complies: Yes ( ) No ( )**

All components, equipment, and installation procedures shall conform to NFPA 70, National Electrical Code, except where superseded by NFPA 1901 2003 edition and Washington Administrative Code 296-305 where applicable.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**8.12.4 Bidder Complies: Yes ( ) No ( )**

All line voltage electrical system equipment and materials shall be listed and installed in accordance with the manufacturer's instructions. All products shall be used only in the manner for which it was intended.

All grounding shall be made in accordance with NFPA 70, section 250-6 "Portable and Vehicle Mounted Generators" Ungrounded systems shall not be used. Only stranded or braided copper conductors shall be used for grounding and bonding. A means for grounding shall be provided in accordance with section 250-91 (Grounding Conductor Material ).

**8.12.5 Bidder Complies: Yes ( ) No ( )**

The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray in accordance with section 200-6.

**8.12.6 Bidder Complies: Yes ( ) No ( )**

Each body and driving compartment enclosure shall be bonded to the vehicle frame by a copper conductor. This conductor shall have a minimum amperage rating of 115 percent of the name plate current rating of the power source specification label as defined in section 310-15 (amp capacity). A single conductor, properly sized to meet the low voltage and line voltage requirements shall be permitted.

**8.12.7 Bidder Complies: Yes ( ) No ( )**

The conductors used in the power supply assembly between the output terminals of the power source and the main over-current protection device shall not exceed 144" in length.

**8.12.8 Bidder Complies: Yes ( ) No ( )**

For fixed power supplies, all conductors in the power supply system shall be type THHW, THW, or use stranded conductors enclosed in non-metallic liquid tight flexible conduit rated for a minimum of 194 degrees F.

**8.12.9 Bidder Complies: Yes ( ) No ( )**

For portable power supplies, conductors located between the power source and the line side of the main over-current protection device shall be type SO, or SEO with suffix WA.

**8.12.10 Bidder Complies: Yes ( ) No ( )**

Electrical cord or conduit shall not be attached to the chassis suspension, components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring.

**8.12.12 Bidder Complies: Yes ( ) No ( )**

Wiring conduit shall be separated by a minimum of 6" from the chassis fuel lines.

**8.12.13 Bidder Complies: Yes ( ) No ( )**

Electrical cord or conduit shall be supported within 6" of any junction box and a minimum of every 24" of continuous run if not in the double wall body. Supports shall be made of non-metallic materials or corrosion protected metal. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**WILL-BURT TELESCOPING MAST LIGHT**

**8.13.0**

**Bidder Complies: Yes ( ) No ( )**

A Will-Burt #NS15-4500M remote control light mast shall be mounted on the roof of the cab. The light mast shall have a total vertical height extension of 15' above the roof line, and have 4500 watt total lighting wired to the onboard power supply. The tower shall be securely mounted to the forward portion of the roof of the module, as recommended by Will-Burt. Location of controls, etc. will be determined at preconstruction.

**8.13.1**

**Bidder Complies: Yes ( ) No ( )**

The light mast shall include the following:

- Pistol Grip handheld remote on 25' cable.
- RCP rotation & tilt positioner.
- Six (6) 750 watt, 120 volt MagnaFire 3000 Halide IR heads.
- Dual tilt feature, allowing each vertical bank of lights to be rotated opposite of each other.
- Vertical "look-up" floodlights for added safety.
- Mounting frame with built-in tilt system.
- Auto-Stow which shall stow the mast in the proper alignment with one action of the switch.
- Master "shut-off" which shall disconnect all power to the mast in the event of an emergency.
- Owners Manual and service instructions. One (1) year limited warranty.

**8.13.2**

**Bidder Complies: Yes ( ) No ( )**

A label shall be provided at the operators location to indicate mast operation instructions, warning information, extended tower height from the ground and bulb replacement data.

**8.13.3**

**Bidder Complies: Yes ( ) No ( )**

The Night Scan control unit shall be located as directed by the Purchaser.

**TELESCOPING LIGHTS WITH TRI-POD POLES - REAR BODY**

**8.14.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) 120-volt, Havis Shields Magna Fire 3000 series "High Intensity" model KR-36, 750 watt quartz light heads mounted on model 800 series telescoping removable Tri-Pod light poles shall be provided on the rear of the apparatus body. The telescoping Tri-Pod poles shall provide an additional grab handle at the rear corners of the apparatus body. The lights shall be controlled either by a breaker located in the load center panel, or per the direction of the Purchaser.

**EYEBROW SCENE LIGHT**

**8.15.0**

**Bidder Complies: Yes ( ) No ( )**

One (1) Havis Shields Magna Fire 3000-1500 series model KR-36 120 volt 750 watt lights and fixtures shall be installed on the front roof line of the cab (Eyebrow Light). Each light shall provide 25,500 lumens for forward facing scene lighting. Provided by Spartan Motors.

**8.15.1**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Havis Shields Magna Fire 3000 KR-36 series 120 volt 750 watt lights and fixtures shall be installed one (1) each side in the upper body (centered below the awnings). Each light shall provide 25,500 lumens for forward facing scene lighting.

**8.15.2**

**Bidder Complies: Yes ( ) No ( )**

All lights above will be controlled as per the purchasers direction at the time of preconstruction. Bidders shall base pricing on a single location of activation for proposal purposes, i.e. cab controlled.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**SECTION 10: BREATHING AIR CASCADE & FILL SYSTEM-  
PURCHASER SUPPLIED**

**FILL ENCLOSURE(S)**

**10.00.0**

**Bidder Complies Yes ( ) No ( )**

The successful bidder shall install Kirkland Fire Departments existing eight (8) bottle cascade system, currently installed in Air 21.

**10.00.1**

**Bidder Complies Yes ( ) No ( )**

System shall be shipped to the successful bidder by the City of Kirkland for installation. Shipping costs will be borne by the City unless otherwise negotiated.

**10.00.2**

**Bidder Complies Yes ( ) No ( )**

Bidder shall properly install system in the L-1/R-1 compartment, with the bottles centered over the chassis frame for best weight distribution. It will be the responsibility of the manufacturer or bidder to install system to current safety standards and for ease of service.

**10.00.3**

**Bidder Complies Yes ( ) No ( )**

Kirkland's existing fill station assembly will be installed at the direction of the purchaser in the R-1 compartment.

**10.00.4**

**Bidder Complies Yes ( ) No ( )**

Fill panel as provided by Kirkland will be installed as directed. Dimensions of existing system are as follows:

- Fill station control panel measures approximately 32" wide x 30" high x 10" deep. Note: Panel can be modified to fit specified area.
- The bottle storage measures approximately 22" wide x 40" high x 56" deep (long)

**10.04.5**

**Bidder Complies Yes ( ) No ( )**

The air control panel shall be installed in compartment to be determined by the Purchaser, and the storage vessels shall be installed in compartment centered in body per engineering and customer approval.

The completed unit shall be completely assembled and finished prior to the painting process. The unit shall be fully inspected by the Chief or his designee for compliance with the specifications and quality of workmanship prior to painting. Once final approval is given per the chief, the following painting and striping process shall be completed.

**NOTE:** It is noted that the air system is being provided by the purchaser for installation by the bidder and that bids must be based upon certain criteria, therefore each bidder shall base their installation of these components on a 40 hour installation schedule with all parts to be provided by the purchaser.

**SECTION 11: PAINTING, LETTERING, & SIGNS.**

**11.00.0**

**Bidder Complies: Yes ( ) No ( )**

The completed unit shall be completely assembled and finished prior to the painting process. The unit shall be fully inspected by the Purchaser or the appointed designee for compliance with the specifications and quality of workmanship prior to painting. Once final approval is given per the Purchaser, the following painting and striping process shall be completed.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**11.00.1**

**Bidder Complies: Yes ( ) No ( )**

The entire unit shall be disassembled as follows;

**11.00.2**

**Bidder Complies: Yes ( ) No ( )**

All non-roll up style compartment doors, latches and hinges shall be removed, and the doors painted separately. Door hinges shall not be painted.

**11.00.3**

**Bidder Complies: Yes ( ) No ( )**

All aluminum diamond plate shall be removed, and the completed body shall be fully painted to assure penetration to all areas of the body.

**11.00.5**

**Bidder Complies: Yes ( ) No ( )**

All lighting, handrails, steps and other body fixtures shall be removed prior to paint.

**11.00.6**

**Bidder Complies: Yes ( ) No ( )**

The entire apparatus body to be painted shall be properly cleaned; all imperfections ground smooth and sanded, then filled where necessary to assure a smooth painting surface. The entire unit shall be thoroughly prepped utilizing an aluminum self-etching primer, to assure adhesion of paint to the body.

**11.00.7**

**Bidder Complies: Yes ( ) No ( )**

All interior body areas, the entire underbody, inside the body sides from the running board level, and inside the wheel well liners shall be fully coated with automotive type undercoating, for maximum resistance against water intrusion.

**11.00.8**

**Bidder Complies: Yes ( ) No ( )**

The entire unit shall be painted with not less than three (3) coats of finish paint, per the paint manufacturers recommendations.

**11.00.9**

**Bidder Complies: Yes ( ) No ( )**

Paint shall be Dupont Imron or approved equal Polyurethane type paint system, applied per recommendations of the paint manufacturer. The manufacturer's paint facility and painters and shall be fully certified by paint manufacturer, to allow for paint/corrosion warranty to be valid. Non-certified paint facilities not acceptable. Proof of painter's certifications shall be provided with all bid proposals. The apparatus Body paint shall have a **full non pro-rated minimum 5-year warranty**. Bidders shall state warranty terms with bids.

**11.00.10**

**Bidder Complies: Yes ( ) No ( )**

The entire apparatus shall be painted Red to match the Purchaser's current fleet. The corresponding paint code shall be given the bidder upon award of the apparatus contract.

**11.00.11**

**Bidder Complies: Yes ( ) No ( )**

All seams between adjoining pieces that are not continuously welded shall be caulked to inhibit corrosion.

**11.00.12**

**Bidder Complies: Yes ( ) No ( )**

All compartment interiors shall be painted white with a black decorative pattern. The finish shall provide a durable, watertight coating, and shall provide an easily maintained finish. Non-finished compartment interior shall not be considered.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**11.00.13**

**Bidder Complies: Yes ( ) No ( )**

The apparatus shall be warranted against corrosion perforation for a period of ten (10) years.

**11.00.14**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer shall meet and exceed all current applicable State and Federal regulations concerning paint operations their our jurisdiction. Pollution control measures shall be carefully adhered to avoid contamination and protect the atmosphere, water, and soil. Neither the building process nor finishing of the apparatus, shall utilize products that have ozone-depleting substances.

**UNDERCOATING**

**11.01.0**

**Bidder Complies: Yes ( ) No ( )**

The entire underbody shall undergo a two (2) step undercoating process. The first step shall be a rubberized polyurethane base compound that is applied after the body has been primed. This coat shall be applied to all hidden pockets and surfaces that shall not be visible after completion. As a final step, the entire underside of the body shall be coated with a bituminous-based automotive type undercoating when the body is completed but prior to installation on the chassis. The chassis, frame, drive train, running gears, airlines, wiring, etc. shall not be undercoated.

**SCOTCHLIGHT REFLECTIVE STRIPING**

**11.02.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer shall provide and apply a 6 inch wide and a 2 inch wide white reflective stripe on each side, at the front, and rear of the apparatus. All stripes are per NFPA standards and ASTM D 4965, Standard Specifications for Retroreflective Sheeting for Traffic Control. The stripe shall be in a double Z-shape pattern. The Purchaser shall approve the striping layout prior to the application. All striping shall be outlined with dark "Navy Blue" ¼" striping #580-75.

**11.02.1**

**Bidder Complies: Yes ( ) No ( )**

All roll-out trays, swing out toolboards, and or any component which may be opened to extend past the side of the body shall have a minimum of 2" full width and length band of 3M White reflective Scotchligh applied to improve the visibility of an open door during night operations.

**11.03.1**

**Bidder Complies: Yes ( ) No ( )**

Lettering (up to sixty (60) total) will be provided per the Purchaser's requirements. The actual size and font style will be provided to the successful bidder prior to the time of application. All lettering shall be outlined with dark "Navy Blue" ¼" striping, #580-75.

**REFLECTIVE LETTERING**

**11.04.0**

**Bidder Complies: Yes ( ) No ( )**

The rescue body shall have 8"-10" lettering applied to the rescue body. The lettering shall be 3M white Scotchligh with Navy Blue shading. Up to 30 letters shall be utilized. The exact lettering layout, color and font shall be as listed below to match the Purchaser's current fleet.

**MISCELLANEOUS SIGNS**

**11.08.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer shall apply the Purchaser supplied door decals or emblems prior to delivery, if applicable.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**TOUCH UP PAINT**

**11.09.0**

**Bidder Complies: Yes ( ) No ( )**

A minimum pint size bottle of touch-up paint for each color shall be supplied to match each color used in the manufacture of the vehicle. To include: Cab exterior, cab interior, body exterior, chassis, compartment interior.

**NFPA PLACARDS**

**11.10.0**

**Bidder Complies: Yes ( ) No ( )**

A permanent plate shall be installed in the driver's compartment specifying the maximum number of personnel the vehicle is designed to carry per NFPA standards. It shall be located in an area visible to the driver.

**11.10.1**

**Bidder Complies: Yes ( ) No ( )**

An accident prevention sign stating "DANGER", personnel must be seated and seat belts must be fastened while vehicle is in motion, or "DEATH OR SERIOUS INJURY MAY RESULT" shall be provided. It shall be visible from each seating position.

**11.10.2**

**Bidder Complies: Yes ( ) No ( )**

An accident prevention sign stating "DANGER", do not ride on rear step while vehicle is in motion. "DEATH OR SERIOUS INJURY MAY RESULT" shall be provided. It shall be visible from the rear step area of the vehicle.

**11.10.3**

**Bidder Complies: Yes ( ) No ( )**

A warning sign(s) stating "Occupants Must Be Seated And Belted When Apparatus Is In Motion" shall be installed in the cab area where all occupants can see it. The letter height shall be at least 1/4 inches.

**11.10.4**

**Bidder Complies: Yes ( ) No ( )**

One (1) "Final Stage Label" shall be attached to the drivers side door jamb. The label shall certify that the completed vehicle conforms to the Federal Motor Vehicle Safety Standards, which have been previously fully certified by the incomplete vehicle manufacturer or by the intermediate vehicle manufacturer and has not been affected by the final-stage manufacturer.

**11.10.5**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer shall apply all other applicable NFPA warning placards contained either within this specification or within NFPA 1901-latest edition.

**MISCELLANEOUS PLACARDS**

**11.11.0**

**Bidder Complies: Yes ( ) No ( )**

A permanent mounted plate shall be provided at chassis fuel fill stating "Diesel Only".

**11.11.1**

**Bidder Complies: Yes ( ) No ( )**

An "Overall Height and Weight " placard shall be included in the cab upon completion of the apparatus. The placard shall be visible from either the driver's or officer's position per the Revised Code of Washington (RCW).

**SECTION 12: MISCELLANEOUS EQUIPMENT.**

The manufacturer shall supply and mount (as applicable) the following loose equipment components. It is noted that additional equipment is incorporated within this specification, and is not listed below.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**WHEEL CHOCKS**

**12.00.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) Ziamatic AC-2 wheel chocks and holders shall be provided and installed, each with holder. Actual location of the wheel chocks shall be determined at the Pre-construction meeting.

**MISCELLANEOUS FASTENERS**

**12.01.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer shall provide a bag of miscellaneous stainless steel fasteners used in the construction of the apparatus shall be provided at the time of delivery or pick up of the apparatus.

**DELIVERY AND OPERATIONAL DEMONSTRATION**

**12.02.0**

**Bidder Complies: Yes ( ) No ( )**

Proposals shall include the delivery of the completed apparatus to the location of the Purchaser. The manufacturer shall provide a complete maintenance and operational demonstration of the completed apparatus, which shall not be less than two (2) eight hour days, with (1) additional training session at the Purchaser's discretion. The training shall be conducted by the manufacturer's employed delivery engineer, and not a sales representative or dealer representative.

**SECTION 13: DOCUMENTATION.**

The following documentation shall be supplied upon delivery:

**SERVICE MANUALS, PARTS LIST, & WIRING DIAGRAMS**

**13.00.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) service manuals and parts lists complete with "Vehicle specific As- Built" wiring and air plumbing diagrams and zirc fitting lubrication points shall be provided.

**13.00.1**

**Bidder Complies: Yes ( ) No ( )**

Two (2) copies of each of the following shall be supplied: Operational /Service manuals of apparatus operations, Operation/Service manuals for the chassis, engine, transmission, wiring, air line plumbing, manuals for any accessories, and parts manuals for the apparatus. All manuals necessary for electrical, lighting and all other accessories installed by the final stage manufacturer shall be provided in duplicate also.

**ELECTRONIC MANUALS**

**13.01.0**

**Bidder Complies: Yes ( ) No ( )**

Two (2) copies of all operator, service, and part manuals shall be supplied at the time of delivery in electronic format (CD-ROMS).

**13.01.1**

**Bidder Complies: Yes ( ) No ( )**

The electronic manuals shall include the following information:.

- Operating instructions, descriptions, specifications, and rating of the chassis, installed components and auxiliary systems.
- Warning and cautions pertaining to the operation and maintenance of the apparatus.



**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

- Charts, tables, checklist, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.
- Instructions regarding the frequency and procedure for recommended maintenance.
- Maintenance instructions for the repair and replacement of installed components.
- Parts listing with descriptions and illustrations for identification.

**13.01.2**

**Bidder Complies: Yes ( ) No ( )**

The CD-ROM shall incorporate a navigation page with electronic links to the operators manual, parts manual, and warranty information, as well as instructions on how to use the manual. Each copy shall include a table of contents with links to the specified documents or illustrations. The CD-ROM must be formatted in such a manner as to allow not only the printing of the entire manual, but also the cutting and pasting, or copying of individual documents to other electronic media, such as electronic mail, memos, and etc. A find feature shall be included to allow for searches by text or by part number. These electronic manuals shall be accessible from any computer operating system capable of supporting portable document format (PDF).

**13.01.3**

**Bidder Complies: Yes ( ) No ( )**

Permanent copies of the pertinent data shall be kept file at both the local dealership, and at the manufactures location. Note: Engine overhaul, engine parts, transmission overhaul, and transmission parts manuals shall not be included.

**MANUFACTURERS APPARATUS CONSTRUCTION DOCUMENTATION**

The manufacturer shall supply, at the time of delivery, at least one copy of the following documents per unit:

**13.02.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturers record of apparatus construction details, including the following information:

- Owners name and address.
- Apparatus manufacturer, model, and serial number.
- Chassis make, model, and serial number.
- GAWR of front and rear axles
- Front tire size and total rated capacity in pounds.
- Rear tire size and total rated capacity in pounds.
- Chassis weight distribution in pounds with water and manufacturer mounted equipment (front and rear).
- Engine make, model, serial number, rated horsepower and related speed, and governed speed.
- Type of fuel and fuel tank capacity.
- Electrical system voltage and alternator output in amps.
- Battery make, model, and capacity in cold cranking amps (CCA).
- Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio.
- Paint manufacturer and paint number(s).
- Company name and signature of responsible company representative.

**13.02.1**

**Bidder Complies: Yes ( ) No ( )**

Certification of slip resistance of all stepping, standing, and walking surfaces.

**13.02.2**

**Bidder Complies: Yes ( ) No ( )**

If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source shall be provided.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**13.02.3**

**Bidder Complies: Yes ( ) No ( )**

Written load analysis and results of the electrical system performance tests.

**WARRANTY INFORMATION.**

**13.03.0**

**Bidder Complies: Yes ( ) No ( )**

All warranty and certificate information shall be transferred by manufacturer to the Purchaser to include: Cab and chassis, and all other applicable components.

**SECTION 14: MANUFACTURER/DEALER PROVIDED SERVICES**

**ON CALL SERVICE PROGRAM**

**14.00.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer and or dealer (if applicable) shall provide a 24 hour service program, allowing the Purchaser to access a service technician 7 days a week, 24 hours a day in case of vehicle or component failure.

**MOBILE SERVICE UNIT**

**14.01.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer and or dealer ( if applicable) shall provide a factory staffed mobile repair service, with the ability to make service and warranty repairs at the location of the Purchaser. A photograph of the unit shall be provided with each bid.

**AUTHORIZED LOCAL SERVICE & WARRANTY FACILITY**

**14.02.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer and or dealer shall provide a factory authorized warranty and service center located within 40 driving miles from the Purchaser.

**SECTION 15: PERFORMANCE TESTS AND REQUIREMENTS.**

**15.00.0**

**Bidder Complies: Yes ( ) No ( )**

It shall be required that the final delivered apparatus shall meet all aspects of acceptance test pertaining to apparatus found in NFPA Standard 1901, latest edition.

**ROAD TEST**

**15.01.0**

**Bidder Complies: Yes ( ) No ( )**

A road test shall be conducted by the purchaser upon delivery with the fully loaded apparatus and a continuous run of no less than 10 miles under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission shaft or shafts, and the rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus.

**WEIGHT CERTIFICATE**

**15.02.0**

**Bidder Complies: Yes ( ) No ( )**

The manufacturer shall furnish a weight certificate showing weights showing weights on the front axle, rear axle, and total weight for the completed apparatus at the time of delivery, but without personnel and equipment.

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

**ACCELERATION TEST**

**15.03.0**

**Bidder Complies: Yes ( ) No ( )**

The fully loaded apparatus must be capable of accelerating to 35 mph from a standing start within 15 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.

**15.03.1**

**Bidder Complies: Yes ( ) No ( )**

The apparatus, fully loaded, shall be capable of obtaining 75 mph on a level concrete highway with the engine not exceeding its governed rpm (full load).

**BRAKING TEST**

**15.04.0**

**Bidder Complies: Yes ( ) No ( )**

The service brakes shall be capable of stopping the fully loaded vehicle in 35 feet at 20 mph on level concrete highway.

**15.04.1**

**Bidder Complies: Yes ( ) No ( )**

The apparatus, fully loaded, will be capable of the brakes holding on a 20% grade without the use of wheel chocks.

**TEST FAILURE CRITERIA**

**15.05.0**

**Bidder Complies: Yes ( ) No ( )**

In the event the apparatus fails to meet the test requirements of these specifications on the first trials, second trials may be made at the option of the bidder within thirty (30) days of the date of the first trials. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes as the purchaser may consider necessary to conform to any clause of the specification within thirty (30) days after notice is given to the bidder of such changes shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the Purchaser or its use by the Purchaser during the above specified period with the permission of the bidder shall not constitute acceptance.

**15.05.1**

**Bidder Complies: Yes ( ) No ( )**

In the event that the apparatus fails the first trial, a report detailing all corrective actions taken shall be submitted to the purchaser prior to the second trial being conducted.

**END OF SPECIFICATION**

**BIDDER SPECIFICATION ANALYSIS CERTIFICATION FORM**

I have read and fully understand the Purchaser's specification and certify that all the answers provided to the questions in the Purchaser's specifications are true and correct. Notarized

**Bid Specification & Information For:  
One (1) or Special Operations Support Apparatus**

documentation shall be provided with the Bidder's proposal indicating that the individual is authorized to sign for their respective company.

Bidding Company: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Authorized Officer of Bidding Company: \_\_\_\_\_

\_\_\_\_\_  
Signature of Officer

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

On this, the \_\_\_\_ day of \_\_\_\_\_, 2005, before me as a Notary Public, the undersigned officer, personally appeared \_\_\_\_\_, known to me (or satisfactory proven) to be the person whose name is subscribed to the foregoing Specification Analysis Form, and acknowledge that they have executed the same for the purpose therein contained.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Date

Seal:

Photocopies or facsimiles of the above notarized form shall not be permitted. Failure to notarize the above listed information shall result in immediate rejection of the Bidder's proposal.